



**United States  
Department of  
Agriculture**

Economic  
Research  
Service

FdS-283

November 1981

# Feed

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# OUTLOOK & SITUATION

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Table 1.--Feed grains: Marketing year supply, disappearance, area and prices, 1977-81 <sup>1</sup>/<sub>2</sub> (corn, sorghum, oats, barley)

Year 2/	Supply				Disappearance						Ending stocks			
	Begin- ning stocks	Produc- tion	Imports	Total	Domestic use			Exports	Total disap- pearance	Govt. owned : 3/	Privately owned : 4/	Total		
					Alc. : beer- : ages	Seed : and : residual	Feed : and : Total							
			Food											
Million metric tons														
1977/78	29.9	205.3	0.3	235.5	13.6	4.8	1.5	117.9	137.8	56.3	194.1	0.7	40.7	41.4
1978/79	41.4	221.5	0.3	263.2	14.4	5.1	1.4	135.9	156.8	60.2	217.0	3.7	42.5	46.2
1979/80	46.2	238.2	0.3	284.7	15.7	5.2	1.5	138.6	161.0	71.3	232.3	7.7	44.7	52.4
1980/81 5/	52.4	198.2	0.3	250.9	17.5	5.3	1.3	122.8	146.9	69.4	216.3	7.1	27.5	34.6
1981/82*	34.6	245.3 (+ 8)	* 0.3	280.2 (+ 8)	-----	26.2 (+ 1)	-----	130.1 (+ 10)	156.3 (+ 10)	74.1 (+ 6)	230.4 (+ 14)	-----	-----	49.8 (+ 10)
	Area								Yield	Index		Government		
	National program	Set-aside and diverted	Planted	Harvested for grain	Per hectare		Average price received by farmers 6/		Total		payments to participants		Government support program	
	----- Million hectares -----				Metric tons		1977=100		-----		-----		-----	
1977/78	36.0	---	52.4	43.9	4.68		102		7/ 570		8/ 1,023			
1978/79	39.4	3.4	50.3	42.7	5.19		113		8/ 247		9/ 413		9/ 323	
1979/80	44.3	1.9	48.1	41.5	5.74		125		9/ 413		9/ 413			
1980/81 5/	42.7	---	49.3	41.1	4.82		154		9/ 413		9/ 413			
1981/82	44.1	---	50.1	43.1	5.69		9/ 323		9/ 323		9/ 323			

1/ Aggregated data on corn, sorghum, oats, and barley. 2/ The marketing year for corn and sorghum begins October 1; June 1 for oats and barley. 3/ Uncommitted inventory. 4/ Includes total government loans (original and resale). 5/ Estimated. 6/ Excludes support payment. 7/ Deficiency and disaster payments. 8/ Deficiency, disaster, and diversion payments. 9/ Disaster payments. \*Reflects CRB estimate of root mean square error' for production and comparable estimates of variability for other items. Chances are about 2 out of 3 the final outcome would fall within the ranges.

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Approved by  
The World Agricultural  
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and Summary released  
October 27, 1981

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The *Feed Situation* is published in February, May, August, and November.

## Summary

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### U.S. Feed Grain Stocks to Build

U.S. feed grain supplies will be larger this year, because a prospective record harvest should more than offset reduced carryin. Increased supplies, plus only modest growth in total disappearance, suggest that carryover for the marketing year will exceed this year's by over 40 percent. The projected 1981/82 carryover for feed grains should be about 22 percent of total use, compared with 16 percent for last year and an average stocks-to-use ratio of 22 percent for the 1977-79 crops. So, season-average prices for feed grains will be below last year's record.

Based on conditions as of October 1, U.S. feed grain production is expected to total 245 million metric tons, up 24 percent from last year's drought-reduced crop and 3 percent above the 1979 record. Corn production, which normally accounts for four-fifths of total feed grain output, is projected up 22 percent from last year, with a near-record yield of 109 bushels an acre accounting for most of the increase.

Total U.S. feed grain disappearance will likely reach 230 million tons this year, up 6 percent above the previous year. Feed use is forecast at around 130 million tons, also 6 percent above the previous year. Increased broiler and fed beef production and a more normal winter than last year should boost feed use. Other domestic uses are

expected to increase to 26 million tons, reflecting expanding use of corn for high fructose corn syrup and gasohol. Also, poor crops in the Soviet Union and Western Europe have aided U.S. export prospects. Feed grain exports are forecast to rise 4 million tons to a record 74 million.

This season's ending stocks of feed grains are projected at nearly 50 million tons, up from 35 million at the beginning of the season. Free stocks may increase only slightly—to around 26 million tons—because of producers' use of the farmer-owned reserve (FOR) and little change in the current Commodity Credit Corporation (CCC) inventory. The FOR could be an attractive marketing option for many farmers, and the use of the program is expected to almost rival 1979/80's 17.5 million tons of carryover in the reserve. Placements of feed grains in the FOR could somewhat cushion the impact of larger supplies on season-average prices. Nevertheless, except for oats, feed grain prices could average 5 to 15 percent below last year.

Corn supplies will likely be up a tenth this year because of the record crop of 8.08 billion bushels. Feed use is forecast at 4.25 billion bushels, and other domestic uses at 825 million, both up from a year earlier. U.S. exports are expected to total 2.5 billion bushels, up 5 percent from last year. Despite increased domestic use and exports, stocks are likely to build to 1.54 billion bushels

by the end of the year. More than half of the carryover will likely be held in the FOR and CCC inventory. Farm prices for corn will likely average \$2.60 to \$2.90 a bushel, compared with last year's record \$3.10.

The U.S. sorghum supply is projected at 986 million bushels, a third above last year. Total use is forecast at 786 million, a fourth above a year earlier. Both exports and feed use are expected to be above a year ago. Ending stocks could double to about 200 million bushels. Sorghum prices at the farm will likely average \$2.40 to \$2.60 a bushel, down from a record \$2.95 last year.

The world coarse grain crop is estimated at a record 767 million metric tons in 1981/82, up 5 percent from the previous harvest. Record U.S. and Canadian production and a large Eastern European crop are more than offsetting smaller output in the Soviet Union and Western Europe. In the Southern Hemisphere, Australia's production will likely be up sharply from last year's drought-reduced level, while Argentina's and South Africa's may be below last year's record.

World trade during July 1981-June 1982 is forecast to reach a record 111 million tons, 6 percent above a year earlier, despite economic sluggishness abroad. The higher global trade mainly reflects increased import needs in the Soviet Union and Western Europe. Virtually all the major foreign exporters are projected to export more this year than last.

The total U.S. concentrate supply is expected to be about 333 million tons this year, up 11 percent from last year but down 1 percent from 1979/80. The largest increase should occur in feed grains, up about a fourth from last year. Average grain feeding rates this year are estimated at 1.63 tons, up nearly 6 percent from the previous year.

Hay supplies should be sufficient in most areas, and prices are falling from last year. Pasture and range conditions are much improved over a year earlier and better than the average during the last decade.

# Feed Situation

## SITUATION AND OUTLOOK FOR FEED GRAINS

### Corn

#### Crop Prospects Improve

As of October 1, the 1981-corn crop was projected at a record high 8,081 million bushels, 22 percent above last year's drought-stricken crop and 2 percent above the 1979 record. Acreage for harvest as grain was forecast at 74.1 million acres, slightly larger than last year. Yield is forecast at 109 bushels per harvested acre, compared with the drought-reduced 91 in 1980 and the 1979 record of 109.7.

Of the major corn-producing States, only Ohio, with a 18-bushel reduction from last year's 113 bushel yield, is indicating a sharp drop. All other major producing States are expecting yields significantly above a year ago.

The corn crop was in good to excellent condition in most parts of the Corn Belt, poor to fair in parts of the Southeast, and fair to mostly good in other producing areas through mid-October. Crop development lagged normal in many of the major producing States. Although scattered frost occurred in portions of the Corn Belt in late September, most of the crop was far enough along to escape damage. In the 17 major producing States, 97 percent of the crop was mature and 31 percent has been harvested by October 18. This compares with 61 percent harvested last year and the average of 42 percent. In portions of the northern Corn Belt, particularly Michigan and Wisconsin, heavy rains in September slowed harvesting.

Experience indicates that chances are 2 out of 3 that this year's corn crop will not differ from the October 1 forecast by more than 3.9 percent (approximately 315 million bushels). Therefore, 1981 production will likely fall within 7,766 to 8,396 million bushels.

#### Larger Supply and Only Modest Growth In Demand Account For Price Weakness

The October 1, 1981 carryover of 1,034 million bushels and a crop of 8,081 million would make the corn supply for 1981/82 about 9.1 billion, 1 percent less than the 1979/80 record but 10 percent more than last season. Disappearance (domestic use plus exports) will likely total about 7,575 million bushels, less than the record of 2 years ago but up 4 percent from 1980/81. Thus, the 1981/82 carryover is expected to build to over 1.5 billion bushels.

On October 6, the farmer-owned grain reserve (FOR) was opened for the 1981 crop and the 1980 crop currently under a regular Commodity Credit Corporation (CCC) price support loan. However, corn from previous reserve programs that has already been called is not eligible for reentry. A small amount of the 1979 and 1980 crop corn

under loan has recently been forfeited to the CCC. By next October 1, stocks held in the FOR are projected at 600 million bushels, CCC inventory at 240 million, and free stocks at 701 million.

The outlook for the livestock industry has changed little over the past few months. Although the livestock/corn price ratio improved slightly, grain price ratios indicate a shift to feeding more sorghum and wheat, because the former is in abundant supply in the Southwest and the latter is plentiful in the Southeast. Although livestock numbers are not expected to rise significantly, it is expected that feeding rates would return to more normal levels. Feeding rates were abnormally low during last year because of the relatively mild winter and high grain prices. Thus, feed use during 1981/82 is expected to increase about 3 percent to 4,250 million bushels.

The estimate of corn use for food, seed, and industrial purposes in 1981/82 is 825 million bushels, an increase of 75 million over last year. The increase will be mainly due to rising production of high fructose corn syrup and gasohol. However, incentives for the production of alcohol for gasohol have weakened primarily because of ample supplies of crude oil.

U.S. corn exports are projected at 2,500 million bushels, 6 percent higher than last year's estimated shipments. Prospects for increased world trade, particularly because of poor crops in the Soviet Union and Western Europe, have strengthened the U.S. export outlook.

#### Prices Weaken in 1981/82

Corn prices in 1981/82 will fall below last year's record level because of a larger supply, only a modest increase in domestic use and exports, and an expected buildup of stocks. The strong U.S. dollar relative to other currencies, coupled with high interest rates and poor feeding margins, reduced exports and domestic use and weakened corn prices over the last 4 months. Prices at the farm may average \$2.60 to \$2.90 per bushel, compared with the record \$3.10 estimated for 1980/81.

The opening of the feed grain reserve is expected to provide some strength to grain prices. Producers who place corn in the reserve will receive in advance an annual storage payment of 26.5 cents and a nonrecourse loan of \$2.55 per bushel, 15 cents higher than the regular loan. Because the reserve loan rate is higher and the reserve includes a storage payment, use of the reserve will provide some immediate cash advantage over the regular loan. The reserve loan plus prepaid storage payments total \$2.82 per bushel, well above current market prices. The FOR should be especially attractive to farmers who have their own storage facilities. For them, on the average, after adjusting for first year interest (14.5

percent currently) and for storage costs, the net present value of corn placed in the FOR exceeds current market prices by a significant amount. This is true even if the trigger price is not reached within the 3-year life of the contract.

## **Sorghum**

### **Larger Crop in Prospect**

As of October 1, the 1981-sorghum crop was projected at 877 million bushels, 49 percent above last year's drought-reduced crop. Acreage for harvest as grain was forecast at 13.6 million acres, up slightly from last year's. Yield per harvested acre is forecast at a record 64.4 bushels, compared with 46.2 in 1980 and the previous record of 62.7 in 1979.

Yield prospects are better than a year ago in all States except Indiana. Late season conditions in the Midwest continued to be good, although harvest lagged normal in many of the major producing States. Possible damage by light early frosts had been a concern in northwest Kansas. The Texas sorghum harvest was on schedule across the State. Harvest in the Panhandle made progress; however, the mild damp weather kept grain moisture too high for harvest in some areas.

Chances are 2 out of 3 that the crop will not differ from the October forecast by more than 4.7 percent (approximately 40 million bushels). Therefore, the 1981-sorghum crop will likely fall within 836 to 918 million bushels.

### **Sorghum Disappearance and Stocks to Increase**

The October 1, 1981, carryover of 109 million bushels and a crop of 877 million would make the sorghum supply for 1981/82 986 million, a third more than last year. Domestic use during the year is estimated at about 460 million bushels, an increase of nearly 30 percent over a year ago. The rise is attributed to the substitution of sorghum for corn in feeding because of favorable supplies and prices in the Southwest. Exports would likely be about 325 million bushels, 7 percent more than last year, again the result of more favorable prices relative to corn and increased world trade. Carryover stocks are forecast at 200 million bushels, almost twice 1980/81. With the opening of the reserve to 1981-crop sorghum, the FOR carryover is projected at 40 million bushels, CCC inventory at 41 million, and free stocks at 119 million.

The larger supply and expected stock buildup will lower prices from last year. Sorghum prices at the farm will likely average \$2.40 to \$2.60 per bushel in 1981/82, down from \$2.95 a year earlier.

## **Barley**

### **Barley Crop Up Sharply**

Barley production in 1981 is estimated to be 476 million bushels, up 33 percent from last year and only 1 million below the 1958 record. Area for harvest is estimated

at 9.07 million acres, 25 percent above last year. Yield per harvested acre is forecast at a record 52.5 bushels, up 2.9 bushels from 1980. Of the major producing States, North Dakota's yield is 48 bushels, up 50 percent; Minnesota's yield is 56 bushels, up 32 percent; Montana's yield is 44 bushels, up 5 percent. Meanwhile Idaho's yield is 63 bushels, down 6 percent and Washington's yield is 58 bushels, down 23 percent.

### **Stocks to Build**

With a crop of 476 million bushels, the barley supply for 1981/82 is estimated at 622 million bushels, 11 percent more than 1980/81. Domestic use of barley will likely be about 375 million bushels, an 8-percent rise from last year. Most of the increase will be in feed use, because barley is priced favorably relative to corn. Also exports will likely be about 100 million bushels, up 30 percent from a year earlier. Thus, ending stocks are expected to build to 147 million bushels, a 13-percent increase from last year. With the opening of the reserve to 1981-crop barley, the FOR is forecast at 25 million bushels. CCC inventory is projected at 3 million bushels, leaving 120 million as free stocks.

Barley prices at the farm are expected to average between \$2.35 and \$2.50 per bushel, down from \$2.91 in 1980/81. Prices during the first 5 months of the marketing year will average below the target price of \$2.60 per bushel, making barley producers eligible for deficiency payments.

## **Oats**

### **Oats Production Up**

The 1981-oat crop is forecast at 509 million bushels, 11 percent more than last year. Yields are expected to average 52.8 bushels per harvested acre compared with 53 last year. Area for harvest is estimated at 9.65 million acres, 12 percent above last year.

Rain during August delayed harvest and lowered yields through most of the Corn Belt and Central Plains. Lodging and excessive weeds caused harvesting problems in scattered areas. Dry weather lowered yields along the northern U.S. border from Montana to Michigan but provided excellent harvesting conditions. Of the major producing States, North Dakota's yield, at 46 bushels per acre, is up 53 percent; Minnesota, at 63 bushels, is up 10 percent; Iowa, at 62 bushels, is unchanged; while South Dakota, at 38 bushels, is down 14 percent; and Wisconsin, at 58 bushels, is down 5 percent.

### **Stocks to Decline**

Oat supplies for 1981/82 are forecast at 686 million bushels, 1 percent less than 1980/81. Domestic use of oats will likely be about 510 million bushels, 1 percent above last year. Exports will likely be about 10 million bushels, down from 13 million last year. Thus, ending stocks are expected to be down slightly from last year. This year's oat crop is not eligible for the reserve. Therefore, the October 1, 1982, carryover should consist of 2



million bushels in CCC inventory and 165 million in free stocks.

Oat prices at the farm are expected to average between \$1.75 and \$1.90 per bushel, about the same as 1980/81.

### Provisions for the 1981 Feed Grain Program

The 1981 target prices are: corn, \$2.40 per bushel; sorghum, \$2.55; and barley, \$2.60. The national loan rate for corn is \$2.40 per bushel; sorghum, \$2.28; barley, \$1.95; and oats, \$1.24. Because the target price for corn is the same as the national loan rate, there can be no deficiency payment. However, deficiency payments are anticipated for sorghum and barley. The reserve loan rates for feed grains are \$2.55, \$2.42, \$2.07, and \$1.31 per bushel for corn, sorghum, barley, and oats, respectively. The interest rate for commodity loans is 14.5 percent, subject to review during October. The 14.5 percent rate has been in effect since April 1, when USDA announced it was instituting a "floating" interest rate, subject to adjustment on October 1 and April 1.

On October 6, Secretary of Agriculture John R. Block announced that farmers could immediately enter their 1981 corn, sorghum, and barley crops into the farmer-owned grain reserve. Farmers with 1980-crop corn,

sorghum, and barley currently under a regular CCC price support loan also may enter their grain into the reserve. However, 1980-crop corn and sorghum previously called from the reserve are not eligible for reentry, and neither year's crop of oats may be entered at this time. Old-crop barley now in the reserve may be transferred to the new reserve. Grain may not be held in the reserve for more than 5 years from the date it was first placed in reserve.

Farmers placing grain into the reserve will receive annual storage payments of 26.5 cents per bushel, payable in advance. While interest on the loan will be charged during the first year the grain is in reserve, it will be waived during the second and subsequent years.

Under this program, farmers agree to keep their grain in the reserve until the national 5-day moving-average market price for the commodity is at or above the reserve trigger release level of \$3.15 per bushel for corn, \$3.00 for sorghum, and \$2.55 for barley, or until the 3-year loan matures. When the reserve is triggered, farmers may take their grain out without penalty.

If the market price continues above the trigger level after the initial release period (the remainder of the month in which the reserve is triggered plus one additional month), farmers will stop earning storage payments. Interest charges, if previously stopped, will resume.

## DOMESTIC FEED SITUATION

### Feed Concentrate Balance

The total concentrates supply in 1981/82 is expected to be about 334 million metric tons, up 12 percent from last year, but about the same as 1979/80. The largest increase should occur in feed grains, up 22 percent from last year.

The total amount of concentrates fed in 1981/82 is expected to be about 172.9 million tons, up 6 percent from last year but down 1 percent from 1979/80. The amount of feed grains fed should be about 5 percent larger than last year, wheat and rye combined up 273 percent, and oilseed meals up 14 percent. All other concentrates fed should decline. The use of high-protein feed ingredients may rise 7 percent, while other byproduct feeds may decline 13 percent from 1980/81. Large supplies and lower prices of corn, sorghum, and barley in 1981/82 point to heavier feed use than a year earlier, up 3, 43, and 14 percent, respectively. About 150 million more bushels of corn may be fed during 1981/82 than in the previous year, while 135 million more bushels of sorghum may be fed. Barley feeding is expected to increase by 25 million bushels, while oat feeding may be about unchanged.

### Feeding Rates Improve

Feed grain feeding rates per grain consuming animal units (GCAU's) for 1981/82 are estimated at 1.63 tons, up nearly 6 percent from a year earlier, while concentrate feeding is forecast at 2.16, up nearly 6 percent. Total GCAU's are currently projected at 80 million,

slightly below the 1980/81 total. GCAU's from hogs, at 20.7 million, account for all of the decline. Practically all other livestock and poultry units are equal to or slightly ahead of year-earlier levels. High-protein animal units (HPAU's), estimated at 114.1 million for 1981/82, are less than 1 percent above a year earlier. With high-protein feed supplies projected at 22.9 million tons this year—up slightly more than 7 percent from a year earlier—quantities available per HPAU may be 442 pounds, compared with 414 a year earlier.

### Consumption of Feed by Kind Of Livestock

Dairy farmers may feed 30.9 million metric tons of concentrates during 1981/82, compared with 28.9 million a year earlier. Both high-protein and grain feed use may rise about 9 percent, while other feed use declines.

Cattle-on-feed numbers are expected to increase with lower grain prices, showing an estimated 10-percent rise in concentrate feeding from a year earlier. Feed consumption for fed cattle could easily show a considerable difference from early estimates primarily because of the greater number of animals placed, heavier placement weights, and the shorter time on feed. For the October-September feeding year, concentrate feed consumption is estimated at 28.5 million tons, 2.6 million more than 1980/81.

The portion of concentrate rations for fed cattle that grain accounts for is estimated to be up about 12 percent over 1980/81. The amount and kinds of high-protein sup-

plements used will depend partly on average placement weights and on how much milk processing byproducts are fed. Light weight cattle usually require rations containing more protein supplements than those for heavy cattle. Large placements of light-weight cattle, therefore, would raise requirements for soybean meal and other high-protein feeds and would probably encourage greater use of urea because of its lower cost.

The slight increase in poultry numbers is reflected in an estimated rise in total concentrates feeding from a year earlier. The increase should occur primarily in the grain portion, with high-protein feeding up marginally.

Earlier cutbacks in sow farrowings will be reflected in production levels in 1981/82 down 5 to 7 percent from a year ago. Thus, hog producers' feeding margins are expected to show improvement during the year. Many factors point toward building breeding stock over the next several months. Total concentrates fed for hogs, however, is expected to be down 3 percent from a year ago.

### 1981 Hay Prospects

Total hay production in 1981 is estimated at 141 million metric tons, up 8 percent from 1980 but 4 percent below the 1979 record. With an estimated May 1 carryover of 23 million tons, total 1981/82 supplies are forecast at 164 million tons, about the same as a year ago. This would provide about 1.77 tons of hay for each roughage-consuming animal unit, compared with 1.72 tons in 1980/81.

Production of alfalfa and alfalfa-hay mixtures for 1981 is estimated at 82.4 million tons, 3 percent above 1980 but 7 percent below the 1979 crop. The average yield from 26.2 million acres is projected at 3.15 tons, com-

pared with 3.04 a year earlier and the record of 3.19 in 1979.

In May, the average price for hay was \$77.60 per ton, 12 percent above a year ago. However, as crop prospects improved, the average price fell to \$62.90 in September, compared with \$70.40 in September 1980.

### Pasture and Range Conditions

As of October 1, pasture and range conditions averaged 82 percent of normal this year, compared with 60 percent a year earlier. This is 7 percentage points above the 1970-1979 average for this date. During September, dry weather deteriorated grasses in the West, and the risk of fire remained high. Conditions improved in parts of Texas; however, more moisture is needed to sustain growth for fall grazing. On the other hand, the Corn Belt reported good to excellent conditions, a result of abundant moisture. Pastures in the eastern half of the Nation remained in generally fair to good condition.

### Deficit Feed States

Over the last 3 years, there has been little change in the number of States and regions that are deficit in feed grains. Texas and Missouri, unusually deficit in 1980/81, are expected to be surplus-feed States in 1981/82. However, Washington, which is normally deficit, is expected to have a surplus in feed grains in 1981/82. The Northeast, Southwest, Delta, Mountain, and Pacific are the primary deficit grain regions. However, record feed grain production lowered the magnitude of deficit in these regions and increased the surplus of others. So, high feed grain production could significantly affect both interstate and intrastate trade of feed grains.

## WORLD COARSE GRAIN SITUATION

### World Coarse Grain Crop to Increase

World coarse grain production in 1981/82 is currently estimated at a record 767 million metric tons, 5 percent above last year's crop. The larger crops expected in the United States, Canada, Eastern Europe, and Brazil should more than offset prospects for reduced coarse grain crops in the Soviet Union, Western Europe, China, South Africa, and Argentina. Despite smaller carryin stocks, world coarse grain supplies are expected to be up 3 percent from a year ago.

### Prospects for World Carryover Stocks Improve

The forecast for the use of coarse grains in 1981/82 is up 5 percent for the United States, about the same for the Soviet Union, and up slightly in other countries from a year ago. World use will likely fall short of production, increasing carryover stocks to slightly over 90 million tons. Virtually all of the increase in stocks will occur in

the United States. The stock-to-use ratio for 1981/82 is about 12 percent, up from 10 percent a year ago but the same as the 1977/78-1979/80 average.

### World Coarse Grain Trade to Increase

Although, poor performances in world trading centers continue to depress world coarse grain trade, it is forecast at a record 111 million tons in July 1981 through June 1982, 6 percent above a year earlier. The level of total Soviet grain imports and the mix between wheat and coarse grains will heavily influence overall world import demand.

The Soviet Union is likely to import a record 24 million tons, up more than 30 percent from a year ago. Also imports of coarse grains will likely increase in Spain, Portugal, Japan, and a number of developing countries. Imports by Eastern Europe, Brazil, and Mexico should decline somewhat from last year because of increased production in these countries.



### Major Coarse Grain Producers<sup>1</sup>

Country	Year Beginning October		
	1979	1980 <sup>2</sup>	1981 <sup>3</sup>
<i>Million metric tons</i>			
U.S.	238.7	198.7	245.8
USSR	81.1	80.7	75.0
Western Europe	91.1	94.9	89.6
China	83.0	82.5	82.0
Eastern Europe	63.3	61.6	63.1
Canada	18.6	21.8	25.7
Argentina	10.6	21.1	17.5
South Africa	11.7	15.1	12.2
Australia	6.2	5.0	6.8
Thailand	3.6	3.5	4.2
Other	132.0	142.4	144.7
Total	740.0	727.2	766.5

<sup>1</sup>Coarse grains are corn, oats, sorghum, barley, rye, millet, and mixed grains. <sup>2</sup>Preliminary. <sup>3</sup>Estimated as of October 14, 1981.

Exports of coarse grains will likely increase from the United States, Canada, Australia, Argentina, South Africa, and Thailand. The largest growth should occur in Argentina and South Africa, about 35 percent above a year ago. Exports by Eastern Europe, the European Community (EC-10), and other countries in Western Europe should decline somewhat from last year.

### Major Coarse Grain Exporters and Importers<sup>1</sup>

Year	Year Beginning July		
	1979	1980 <sup>2</sup>	1981 <sup>3</sup>
<i>Million metric tons</i>			
<b>Major Exporters:</b>			
U.S.	71.6	72.5	73.7
Argentina	6.6	9.9	13.5
Western Europe	5.5	7.0	5.0
Canada	4.8	4.6	5.5
South Africa	2.9	3.6	4.9
Australia	4.1	2.2	2.7
Thailand	2.3	2.4	2.5
Other	2.9	3.2	3.6
Total	100.8	105.4	111.4
<b>Major Importers:</b>			
Western Europe	23.3	20.9	23.8
Japan	18.9	18.9	19.0
Eastern Europe	11.4	11.0	10.0
USSR	18.4	18.0	24.0
China	2.0	0.8	1.0
Other	26.8	35.8	33.6
Total	100.8	105.4	111.4

<sup>1</sup>Coarse grains are corn, oats, sorghum, barley, rye, millet, and mixed grains. <sup>2</sup>Preliminary. <sup>3</sup>Estimated as of October 14, 1981.

## WRAP-UP FOR 1980/81

Feed grain production of—198 million metric tons—in 1980 was abnormally low primarily because of drought-reduced yields for all crops. The feed grain supply for 1980/81 was below trend at 251 million tons. It would have been even lower had it not been for the relatively high beginning stocks—52.4 million tons.

Feed grain carryover stocks on October 1, 1981 were 34.6 million tons. This carryover is a third less than the previous year and, the lowest since 1976/77. Total use in 1980/81 was about 216 million tons.

Domestic feed use was about 123 million tons, down 12 percent from the year before and the smallest since 1977/78. Feeding rates were abnormally low because of the relatively mild winter in 1979/80. Also, poor feeding margins and high interest rates combined for a lack of

growth in feed demand. The strong U.S. dollar coupled with high interest rates and poor financial performance in the U.S. and world trading centers depressed trade. Thus, exports were about 69.4 million tons, 3 percent less than the year before.

Prices of all feed grains averaged higher in 1980/81 than in 1979/80. The average price at the farm was a record \$3.10 per bushel for corn, compared with \$2.52 in 1979/80. Prices strengthened significantly during winter and spring; however, they fell off thereafter. The average price in September 1981 was 47 cents below the average price in October 1980. The farm price of sorghum was \$2.95 per bushel, compared with \$2.34 in 1979/80. The farm price averaged \$2.91 per bushel for barley, compared with \$2.29 in 1979/80, and \$1.82 for oats, compared with \$1.36 in 1979/80.

# TRENDS AND LOCATION SHIFTS IN SORGHUM PRODUCTION

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**ABSTRACT:** U.S. sorghum production remained fairly stable during the seventies, trending slightly upward during the first half of the decade and slightly downward in the second half. This contrasts with the sixties, when sorghum production expanded along with the cattle-feeding industry in the Southwest and the Southern Plains. Although there were no significant changes in sorghum output nationally, there were dramatic changes on a regional basis. Increases occurred in the Central Plains, while decreases appeared in the Southern Plains and the Southwest. Production changes were mainly a result of changes in harvested acreage and a leveling of yields. States that lowered sorghum acreage expanded cotton, wheat, and corn plantings.

**KEYWORDS:** Sorghum, sorghum production, sorghum acreage, sorghum yields, sorghum production patterns.

U.S. sorghum production during the seventies remained fairly stable, showing a slight upward trend during the first half and a small downward shift in the second half (table A). Harvested acreage followed the same pattern. Yields fluctuated considerably but generally leveled off.

The seventies is in contrast with the sixties when moderately rising yield and acreage led to an expansion in sorghum supplies. The increase in supply contributed to the rapid growth of cattle-feeding in the Southwest (California, Arizona) and the Southern Plains (Texas, Oklahoma), as well as in Colorado, Nebraska, Kansas, and New Mexico. Domestic disappearance rose sharply during this period and then peaked in the early seventies (table B). Recently, corn feeding has gained relative to sorghum feeding, causing domestic disappearance of sorghum to drop off. Steadily increasing sorghum exports have replaced some of the reduction. With total disappearance exceeding production in the late sixties and early seventies, sorghum carryover fell sharply from 702 million bushels in 1961 to 109 million in 1981.

Although there were no significant changes in national sorghum production, in the last decade, there were dramatic changes on a regional basis (table C). Increases in production occurred in the Central Plains (Kansas, Nebraska, South Dakota), as well as in Missouri, Colorado, Arkansas, and Illinois. Decreases were apparent in the Southern Plains and the Southwest, including New Mexico. South Dakota, Colorado, Arkansas, and Illinois not only increased production but also moved up in ranking. South Dakota, for example, jumped from No. 10 to No. 6. Texas and Oklahoma held their positions as No. 1 and No. 5, respectively, even though they decreased production. California, Arizona, and New Mexico not only decreased production but slipped in ranking. California dropped from No. 6 to No. 9, and Arizona from No. 8 to No. 14.

Texas, Kansas, and Nebraska combined (the largest sorghum producers) reduced their share of total output from 81.7 percent to 78.8 percent over the past decade. Texas accounted for the entire reduction, because its share dropped from 45.3 percent to 30.4 percent. Kansas and Nebraska increased their output (table C). Kansas is now nearly equal to Texas.

**Table A—U.S. Sorghum Acreage, Yield, and Production Trends, 1960-81**

Year	Harvested acreage	Yield per harvested Acre	Production
Average	Thousand acres	Bushels	Thousand bushels
1960-64	12,645	42.6	537,127
1965-69	13,636	52.9	720,836
1970-74	14,486	53.8	779,692
1975-79	13,995	54.4	757,245
1980-81	13,178	55.3	732,692

SOURCE: Crop Reporting Board, USDA.

**Table B—Disappearance and Production Trends, 1960-81**

Year	Disappearance			Production
Average	Domestic	Exports	Total	Million bushels
1960-64	433	107	540	537
1965-69	603	182	785	721
1970-74	636	185	821	780
1975-79	491	244	735	757
1980-81	394	313	707	733

SOURCE: Crop Reporting Board, USDA.

**Table C—Production Shares and Ranking for the Top Sorghum-Producing States**

State	1969-70 Average			1979-80 Average		
	Production	Share	Rank	Production	Share	Rank
	Thousand bushels	Percent		Thousand bushels	Percent	
Texas	319,708	45.3	1	212,350	30.4	1
Kansas	164,428	23.3	2	201,425	28.8	2
Nebraska	93,001	13.2	3	136,740	19.6	3
Missouri	13,047	1.8	4	51,120	7.3	4
Oklahoma	25,075	3.6	5	19,748	2.8	5
South Dakota	8,609	1.2	10	13,125	1.9	6
Colorado	10,040	1.4	7	12,585	1.8	7
New Mexico	14,853	2.1	9	11,713	1.7	8
California	22,630	3.2	6	10,798	1.5	9
Arkansas	6,875	1.0	11	8,400	1.2	10
Illinois	987	.1	18	4,209	.6	11
Arizona	12,268	1.7	8	1,862	.3	14
Texas, Kansas, and Nebraska	577,137	81.7		550,515	78.8	
Total Above	691,521	97.9		684,075	97.9	
United States	706,549	100.0		698,430	100.0	

Missouri boosted production from around 13 million bushels to 51 million, thus increasing its share of the national total from 1.8 to 7.3 percent. Other States—mainly South Dakota and Illinois—greatly expanded production but remained minor contributors to the national total. Colorado and Arkansas also registered increases.

On the other side of the coin, California and Arizona cut sorghum production extensively (table D). Output in California dropped off by around 50 percent, and Arizona's crop declined by 85 percent.

Locational shifts in the cattle-feeding industry accompanied shifts in sorghum production. Between 1965 and 1977 Arizona and California reduced fed-beef marketings. During the same period, marketings increased considerably in Kansas, Nebraska and Colorado.

Production changes for sorghum were chiefly a result of changes in harvested acreage and a leveling of yields (table D). Exceptions were Kansas and New Mexico. Kansas increased yields at a faster rate than acreage expanded. New Mexico decreased yields faster than acreage declined.

In the seventies, corn production rose by 50 percent and corn feed use and exports gained relative to sorghum disappearance, bidding up the relative price of corn. As a result, corn plantings in sorghum-producing States increased, especially in Texas, while sorghum decreased. States that lowered sorghum acreage also expanded cotton plantings. Cotton acreage rose considerably in Arizona, California, Oklahoma, and Texas. Wheat production also made big gains in sorghum-producing States.

Reduction in irrigation of sorghum acreage may have accounted for some decreases or leveling of yields. Texas now irrigates about one fifth of its sorghum acreage. At one time, the State irrigated as much as a third. As corn production became more profitable, limited irrigated acreage was shifted to corn. Escalating cost of irrigation was also a constraining factor.

Projections for the 1981 sorghum crop indicate it to be the second largest on record. Harvested acreage is up,

**Table D—Sorghum Production Changes in the Seventies<sup>1</sup>**

State	Production	Harvested acreage	Yield
Percentage change			
Texas	-34	-30	-6
Kansas	+23	+6	+16
Nebraska	+47	+32	+12
Missouri	+292	+255	+13
Oklahoma	-21	-15	-8
South Dakota	+53	+47	+3
Colorado	+25	+30	-1
New Mexico	-21	-8	-13
California	-52	-54	+3
Arkansas	+22	+31	-3
Illinois	+326	+63	+3
Arizona	-85	-72	0
United States	-1	-5	+4

<sup>1</sup>Based on 2-year averages for 1969-70 and 1979-80.

and the yield should hit a record. Ending stocks in 1982 are expected to almost double their low 1981 level of 109 million bushels.

Compared with 1979, sorghum acreage in 1981 is larger in the major producing States of Kansas and Nebraska, as well as in Missouri, South Dakota, Colorado, and Arkansas. Several Southern States have also increased acreage this year, especially Georgia and Louisiana.

Sorghum production is likely to remain stable or increase slightly in the eighties. Acreage may expand in the Plains States, as less land is turned over to corn because of irrigation constraints. Scientists are developing sorghum hybrids that offer a huge potential for increases in yields, especially in Texas, the mid-South, and the Southeast, where yields have been low. If sorghum becomes more profitable to grow, it may regain some of the acreage it lost to corn and other crops.

## Estimated Impact of Key Supply and Market Variables on the Demand for Sorghum

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**ABSTRACT:** An econometric model of sorghum demand is used to examine the impact of changes in sorghum supply, competing grain prices, and international exchange rates on five key sorghum demand sectors and prices.

**Keywords** Impact Multipliers, sorghum demand model, demand sectors, SDR (Special Drawing Right).

### Introduction

This article presents results of a study of the demand for U.S. sorghum. Sorghum is used primarily as a livestock and poultry feed in the United States. In recent years, commercial sorghum exports have grown as livestock feeding in grain-deficit countries has increased. This study reports on efforts to model the major demand sectors of the U.S. sorghum market. Forecasts for 1981/82 are presented along with impact multipliers that may be used to adjust the forecast as further information becomes available during the course of the year.

### Structure of the U.S. Sorghum Market

The U.S. sorghum market can be represented through five demand sectors: (1) exports, (2) feed, (3) food, seed and industrial uses, (4) demand for private stocks, and (5) demand for Government stocks.

Domestically produced sorghum is used as a livestock feed in the Southern Plains. Wheat is sometimes substituted for sorghum when the price relationship between the two crops makes substitution profitable. Beginning in the late sixties and continuing through the seventies there has been a trend toward increased corn production under irrigation in the major sorghum producing region's of the United States. Approximately three-fourths of U.S. sorghum production occurs in Texas, Oklahoma, Kansas, and Nebraska (See preceding article). From a nutritional perspective, corn is a preferred feed over sorghum. Expanded production of corn in the Central Plains has led to increased corn feeding in the region economical. Since the early seventies, sorghum feeding has declined and corn feeding has increased.

The growth of commercial sorghum exports contrasts sharply with the situation in the sixties and early seventies when most U.S. sorghum exports were Government exports under PL 480. Japan is a major buyer of U.S. sorghum. Argentina and Australia are major competitors for export sales.

Food, seed, and industrial uses make up a very small part of total sorghum demand. A major change in this sector was the end of wet milling in the late sixties.

### Forecast for 1981/82 Crop Year

Based on model analysis and the following assumptions, total sorghum use for 1981/82 is estimated at 923 million bushels. The model forecasts a season average price of \$2.58 a bushel. The forecast use for each demand sector is: exports, 253 million bushels; feed, 410 million private stocks, 134 million; Government stocks, 82 million, and food, seed, and industrial use, 9 million. The remaining 36 million bushels are farmer-owned reserves, which is a predetermined variable in this model.

The forecasts are based on the assumptions that the season average price of corn is \$3.00 a bushel, steer-heifer slaughter stands at 27 million head, the sorghum supply is 923 million bushels, and wheat price is assumed to be \$4.10 a bushel.

### Impact Multipliers

The impact multipliers presented are derived from model solutions. The model is solved for the equilibrium levels of the demand variables and the season-average price, given a base set of assumptions for the predetermined variables. Because estimated values for predetermined variables are often revised and updated during the course of the crop year<sup>1</sup>, impact multipliers can be used to revise the forecasted values of the demand variables, given changes in the predetermined variables. Selected impact multipliers estimated from the reduced form of the sorghum demand model are presented in the table. The multipliers are used to adjust the forecast, based on revisions in the predetermined exogenous variables. For example, the original 1981/82 forecast presumed \$3.00 a bushel for corn. More recent estimates would place the season-average price at about \$2.70. This change, -30 cents, times the impact multiplier provides the estimated effect that the change has on each of the sorghum-demand sectors. For example a 30-cent decline in the

<sup>1</sup>Predetermined variables are the inputs required for a model solution and endogenous variables are the output generated by the model.

price of corn implies an estimated R21.45 million bushel decrease in the amount of sorghum exports ( $-.30 \times 71.5 = -21.45$ ). Multiple effects can be analyzed by adding or subtracting the separate impacts.

Several key domestic and foreign demand variables were selected to examine the impact of changes in predetermined variables on sorghum demand. The variables examined were: (1) sorghum production, (2) corn prices, (3) wheat prices, (4) steer-heifer slaughter, and (5) the dollar-to-SDR exchange rate. The analysis is summarized in the table and discussed in the following.

### **Sorghum Supply**

Supply estimates continue to change during the course of the year, even though acreage can be reliably estimated. It is important to know how such changes can affect sorghum demand. The model forecast for 1981/82 was based on an estimated sorghum supply of 923 million. Currently supply is projected at 986 million. A supply increase of 63 million over the forecast 923 million would raise exports by 12. million and feeding by 38.4 million. Private stocks would expand by 5.7 million bushels, and Government stocks would climb by 6.9 million. Sorghum prices would decline by about 13 cents a bushel.

### **Corn Prices**

Corn is used as a substitute feed in sorghum producing regions. In the seventies, there was a rapid increase in irrigated corn acreage in the Southern Plains, and consequently, a trend toward more corn feeding. Changes in corn prices will likely have a substantial impact on sorghum demand. This forecast is based on corn at \$3.00 a bushel. Present forecasts estimate the season average price will be around \$2.70. A 30-cent drop in the corn price per bushel would imply a decline of 21.5 million bushels in exports. Private stocks of sorghum would climb 2.3 million bushels. Government stocks would rise 2.9 million.

### **Wheat Prices**

In the South Central Plains, sorghum represents the major cattle feed. Wheat is rarely used as animal feed in importing countries. However, in the United States wheat will sometimes be substituted when it is in abun-

dant. Changes in wheat prices affect sorghum demand throughout the animal-feed sector. A season-average farm price of \$4.10 a bushel for wheat during 1981/82 was assumed in generating the sorghum demand forecast. Recent farm prices for wheat have been lower than this. If the season average farm price of wheat for 1981/82 was \$3.75 a bushel, the impact on sorghum demand would be a 3.2 million bushel increase in exports. Sorghum feeding would decline 6.5 million bushels. Private stocks would increase 1.5 million bushels, and Government stocks would rise 1.8 million. The price of sorghum would decline by about 4 cents a bushel.

### **Steer-Heifer Slaughter**

The steer-heifer slaughter variable indicates the level of activity in the cattle feeding sector. Since 1950, there has been a trend of toward increasing cattle slaughter, along with a commensurate rise in demand for sorghum feed. Steer-heifer slaughter for 1981/82 is estimated at about 27 million head. The model indicates that an increase in steer-heifer slaughter of 1 million head would imply a decline in sorghum exports of 1.6 million bushels. Sorghum feeding would rise by 13.8 million. Private stocks would decline by 1200 bushels and Government stocks would decline by 12 million. The effect on farm prices of sorghum would be an increase by about 2 cents a bushel.

### **Dollar to SDR Exchange Rate**

The level of commercial sorghum exports increased dramatically in the seventies. In the sixties, sorghum exports were primarily Government stocks under PL 480. The model uses the dollar to SDR (Special Drawing Right) exchange rate as a proxy for the effects of fluctuations in the international currency exchange rate on sorghum demand. A decrease in the value of the variable indicates an increase in the value of the U.S. dollar with respect to foreign currencies and would depress, in turn stimulate to sorghum exports.

A change in the dollar to SDR exchange rate equivalent to a 10-percent increase in the value of the dollar would reduce export estimates by 10.4 million bushels. The estimated season-average price of sorghum would fall by about 3 cents a bushel.

**Selected Reduced Form Impact Multipliers from the Sorghum Model**

Sorghum Demand Sector	Unit	80/81 Forecast	81/82 Forecast	Sorghum Supply +1 million bu.	Corn Price +\$1/bu.	Wheat Price +\$1/bu.	Steer-Heifer Slaughter +1 million head	Dollar/SDR Exchange Rate +1 unit
				<i>Level</i>				
				<i>923 million</i>	<i>\$3.00 /bu.</i>	<i>\$4.10/bu.</i>	<i>27 million</i>	<i>1.13</i>
Exports	Million bu.	245.0	252.7	.19	71.51	-9.01	-1.6	92.24
Feed	Million bu.	349.0	409.4	.61	-	18.48	13.8	-69.47
Prt. Stocks	Million bu.	87.5	133.5	.09	-7.69	-4.13	-.12	-9.92
Govt. Stocks	Million bu.	45.0	82.2	.11	-9.51	-5.10	-12.0	-12.27
Food, Seed & Industrial	Million bu.	8.4	9.1	.005	.44	-.24	-.04	-.57
Farm Price	Dollars/bu.	2.65	2.58	-.002	-	.10	.017	.24

\*Level refers to the value of the predetermined variables used in making the initial 1981/82 forecast. For example, the estimated 1981/82 sorghum supply is 923 million bushels. Changes in the estimated sorghum supply will affect the major demand sectors.



Table 2.--Corn: Marketing year supply, disappearance, area and prices, 1977-81

Year beginning October 1	Supply				Disappearance				Ending stocks Sept. 30									
	Begin- ning stocks	Produc- tion	Imports	Total	Domestic use				Total disap- pearance	Govt. owned 2/	Privately owned 3/	Total						
					Food	Alc. bever- ages 1/	Seed	Feed and residual					Exports					
Million bushels																		
1977/78	885.9	6,505.0	2.6	7,393.5	500.0	70.4	19.5	3,744.4	4,334.3	1,947.8	6,282.1	13.1	1,098.3	1,111.4				
1978/79	1,111.4	7,267.9	1.2	8,380.5	531.2	69.3	19.5	4,323.5	4,943.5	2,133.1	7,076.6	99.7	1,204.2	1,303.9				
1979/80	1,303.9	7,938.8	1.1	9,243.8	582.8	72.2	20.0	4,518.7	5,193.7	2,432.6	7,626.3	256.3	1,361.2	1,617.5				
1980/81 4/	1,617.5	6,647.5	1.2	8,266.2	656.8	73.0	20.2	4,127.0	4,877.0	2,355.2	7,232.2	237.8	796.2	1,034.0				
1981/82*	1,034.0	8,081.4	1.0	9,116.4	-----	825.4	-----	4,250.0	5,075.4	2,500.0	7,575.4			1,541.0				
		(+ 315)		(+ 315)		(+ 35)		(+ 350)	(+ 365)	(+ 200)	(+ 500)			(+ 350)				
Area				Yield				Average prices				Government support program						
National program	Set-aside and diverted	Planted	Harvested for grain	per harvested acre	Bushels	Received by farmers 5/	Chicago		Omaha		Gulf Ports		National average loan rate	Target price	Total payments to participants			
							No. 2 Yellow	No. 2 Yellow	No. 2 Yellow	No. 2 Yellow	No. 2 Yellow							
----- Million acres -----													----- Dollars per bushel -----			----- Mil. dol. -----		
1977/78	60.9	---	84.3	71.6	90.8	2.02	2.26	2.08	2.50	2.00	2.00	6/ 281						
1978/79	76.2	6.1	81.7	71.9	101.0	2.25	2.54	2.28	2.81	2.00	2.10	7/ 683						
1979/80	85.7	2.9	81.4	72.4	109.7	2.52	2.81	2.49	3.02	2.10	2.20	8/ 126						
1980/81 4/	84.1	---	84.1	73.1	91.0	3.10	3.38	3.13	3.53	2.25	2.35	6/ 280						
1981/82	82.9	---	84.3	74.1	109.0	2.60-2.90				2.40	2.40	6/ 125						

1/ Malt beverage and distilled liquor grain products converted to a corn basis. 2/ Uncommitted inventory. 3/ Includes quantity under loan and farmer-owned reserve. 4/ Estimated. 5/ Excludes support payments, 6/ Disaster payments, 7/ Deficiency, disaster, and diversion payments. 8/ Disaster and diversion payments. \*Reflects CRB estimate of 'root mean square error' for production and comparable estimates of variability for other items. Chances are about 2 out of 3 the final outcome would fall within the ranges.

Table 3.—Sorghum: Marketing year supply, disappearance, area and prices, 1977-81

Year beginning October 1	Supply			Disappearance				Ending stocks Sept. 30					
	Begin- ning stocks	Produc- tion	Imports	Domestic use			Total disap- pearance	Govt. owned 1/	Privately owned 2/	Total			
				Food	Alc. bever- ages	Seed and residual							
						Million bushels							
1977/78	91.0	780.9	---	6.0	3.6	2.0	456.3	467.9	213.5	681.4	13.1	177.4	190.5
1978/79	190.5	731.3	---	6.0	3.2	1.8	544.7	555.7	206.6	762.3	43.6	115.9	159.5
1979/80	159.5	808.9	---	6.0	5.0	2.0	484.0	497.0	324.9	821.9	43.9	102.6	146.5
1980/81 3/	146.5	588.0	---	5.0	4.0	2.0	309.7	320.7	304.7	625.4	38.2	70.9	109.1
1981/82*	109.1	877.4 (+ 40)	---	---	11.5	---	450.0 (+ 40)	461.5 (+ 40)	325.0 (+ 35)	786.5 (+ 65)			200.0 (+ 45)

1/ Uncommitted inventory. 2/ Includes quantity under loan and farmer-owned reserve. 3/ Estimated. 4/ Excludes support payments.

5/ Deficiency and disaster payments. 6/ Deficiency, disaster, and diversion payments. 7/ Disaster payments. \*Reflects CRB estimate of "root mean error" for production and comparable estimates of variability for other items. Chances are 2 out of 3 the final outcome would fall within the ranges.



Table 5.--Oats: Marketing year supply, disappearance, area and prices, 1977-81

Year beginning June 1	Supply				Disappearance						Ending stocks May 31										
	Begin- ning stocks	Produc- tion	Imports	Total	Domestic use			Exports	Total disap- pearance	Govt. owned 1/	Privately owned 2/	Total									
					Food	Alc. bever- ages	Feed and residual														
Million bushels																					
1977/78	164.3	752.8	2.2	919.3	42.0	---	42.5	509.4	593.9	12.3	606.2	---	313.1	313.1							
1978/79	313.1	581.7	0.7	895.5	41.0	---	36.1	525.7	602.8	12.7	615.5	2.7	277.3	280.0							
1979/80	280.0	526.6	0.9	807.5	40.7	---	34.6	491.7	567.0	4.1	571.1	2.7	233.7	236.4							
1980/81 3/	236.4	457.6	1.3	695.3	41.0	---	33.0	431.3	505.3	13.3	518.6	2.5	174.2	176.7							
1981/82*	176.7	509.5	1.0	687.2	---	75.2	---	435.0 (+ 30)	510.2 (+ 30)	10.0 (+ 5)	520.2 (+ 30)	---	---	167.0 (+ 25)							
Average prices																					
Area				Yield		Received		Average prices		National		Target		Total							
National				Harvested		by		No. 2		No. 2		average		payments to participants							
Program				for		farmers		White		White		loan rate									
4/				grain		5/		heavy		heavy		6/		Mil. dol.							
4/				acre		Dollars per bushel		Dollars per bushel		Dollars per bushel		Dollars per bushel									
Million acres				Bushels		Dollars per bushel		Dollars per bushel		Dollars per bushel		Dollars per bushel		Mil. dol.							
1977/78				17.7		13.5		55.8		1.10		1.27			1.44		1.36		1.03		---
1978/79				16.4		11.1		52.3		1.20		1.43		1.79		1.37		1.03		---	
1979/80				14.0		9.7		54.4		1.36		1.57		1.87		1.60		1.08		---	
1980/81 3/				13.4		8.6		53.0		1.82		2.04		2.42		2.17		1.16		---	
1981/82				13.6		9.7		52.8		1.75-1.90		7/ 2.05		7/ 2.41		7/ 2.10		1.24		---	

1/ Uncommitted inventory. 2/ Includes quantity under loan and farmer-owned reserve. 3/ Estimated. 4/ Not included in the program.  
 5/ Excludes support payments. 6/ Prior to June 1981 reported for Chicago. 7/ June-September 1981 average. \*Reflects CRB estimate of 'root mean square error' for production and comparable estimates of variability for other items. Chances are about 2 out of 3 the final outcome would fall within the ranges.

Table 6.--Feed grains: Feed year supply and disappearance, specified periods, 1977-81 1/ (corn, sorghum, oats, barley)

Year and periods beginning October 1	Supply			Disappearance							Ending stocks			
	Begin- ning stocks	Produc- tion	Imports	Total	Domestic use				Exports	Total disap- pearance	Govt. owned 3/	Privately owned 4/	Total	
					Food	Agricultural uses	Seed	Feed and residual						
					ages	beverages	ages	residual						
Million metric tons														
1977/78														
Oct.-Dec.	43.6	185.1	0.1	228.8	3.1	1.0	0.1	39.9	44.1	12.5	56.6	4/	172.2	172.2
Jan.-Mar.	172.2	---	0.1	172.3	3.3	1.2	0.3	34.1	38.9	12.3	51.2	4/	121.1	121.1
Apr.-May	121.1	---	4/	121.1	2.3	0.9	1.0	17.3	21.5	10.5	32.0	4/	89.1	89.1
June-Sept.	89.1	18.3	0.1	107.5	4.7	1.8	0.2	27.3	34.0	20.8	54.8	0.7	52.0	52.7
Feed year	43.6	203.4	0.3	247.3	13.4	4.9	1.6	118.6	138.5	56.1	194.6	0.7	52.0	52.7
1978/79														
Oct.-Dec.	52.7	203.2	0.1	256.0	3.6	1.2	0.1	45.1	50.0	12.9	62.9	3.0	190.1	193.1
Jan.-Mar.	193.1	---	0.1	193.2	3.2	1.2	0.3	39.0	43.7	12.6	56.3	3.7	133.2	136.9
Apr.-May	136.9	---	0.1	137.0	2.4	0.9	0.8	21.6	25.7	10.6	36.3	3.7	97.0	100.7
June-Sept.	100.7	16.0	0.1	116.8	5.2	1.7	0.2	30.4	37.5	23.8	61.3	3.7	51.8	55.5
Feed year	52.7	219.2	0.4	272.3	14.4	5.0	1.4	136.1	156.9	59.9	216.8	3.7	51.8	55.5
1979/80														
Oct.-Dec.	55.5	222.2	0.1	277.8	3.5	1.2	0.1	47.6	52.4	19.2	71.6	3.8	202.4	206.2
Jan.-Mar.	206.2	---	0.1	206.3	3.2	1.3	0.3	39.6	44.4	17.8	62.2	3.8	140.3	144.1
Apr.-May	144.1	---	4/	144.1	2.5	1.0	0.8	20.3	24.6	11.6	36.2	5.9	102.0	107.9
June-Sept.	107.9	14.4	0.1	122.4	6.5	1.9	0.2	30.4	39.0	23.1	62.1	7.7	52.6	60.3
Feed year	55.5	236.6	0.3	292.4	15.7	5.4	1.4	137.9	160.4	71.7	232.1	7.7	52.6	60.3
1980/81 5/														
Oct.-Dec.	60.3	183.8	0.1	244.2	3.8	1.2	0.1	45.5	50.6	20.7	71.3	7.7	165.2	172.9
Jan.-Mar.	172.9	---	0.1	173.0	3.3	1.3	0.3	31.8	36.7	18.7	55.4	7.6	110.0	117.6
Apr.-May	117.6	---	4/	117.6	2.9	0.9	0.8	21.0	25.6	11.3	36.9	7.6	73.1	80.7
June-Sept.	80.7	17.8	0.1	98.6	7.6	1.8	0.2	24.8	34.4	18.8	53.2	7.1	38.3	45.4
Feed year	60.3	201.6	0.3	262.2	17.6	5.2	1.4	123.1	147.3	69.5	216.8	7.1	38.3	45.4
1981/82														
Oct.-Dec.	60.3	183.8	0.1	244.2	3.8	1.2	0.1	45.5	50.6	20.7	71.3	7.7	165.2	172.9
Jan.-Mar.	172.9	---	0.1	173.0	3.3	1.3	0.3	31.8	36.7	18.7	55.4	7.6	110.0	117.6
Apr.-May	117.6	---	4/	117.6	2.9	0.9	0.8	21.0	25.6	11.3	36.9	7.6	73.1	80.7
June-Sept.	80.7	17.8	0.1	98.6	7.6	1.8	0.2	24.8	34.4	18.8	53.2	7.1	38.3	45.4
Feed year	60.3	201.6	0.3	262.2	17.6	5.2	1.4	123.1	147.3	69.5	216.8	7.1	38.3	45.4

1/ Data may not add to totals due to independent rounding. 2/ Uncommitted inventory. 3/ Includes quantity under loan and farmer-owned reserve. 4/ Less than 50,000 metric tons. 5/ Estimated.

Table 7.--Corn: Marketing year supply and disappearance, specified periods, 1977-81 1/

Year and periods beginning October 1	Supply			Disappearance						Ending stocks				
	Begin- ning stocks	Produc- tion	Imports	Total	Domestic use			Exports	Total disap- pearance	Govt. owned 3/	Privately owned 4/	Total		
					Food	Alc. bever- ages 2/	Seed and residual							
Million bushels														
1977/78														
Oct.-Dec.	885.9	6,505.0	0.7	7,391.6	115.0	15.7	---	1,290.3	1,421.0	418.3	1,839.3	0.2	5,552.1	5,552.3
Jan.-Mar.	5,552.3	---	0.9	5,553.2	120.0	17.0	3.9	1,088.4	1,229.3	414.5	1,643.8	0.2	3,909.2	3,909.4
Apr.-May	3,909.4	---	0.3	3,909.7	85.0	13.4	11.7	568.3	678.4	370.2	1,043.6	0.2	2,860.9	2,861.1
June-Sept.	2,861.1	---	0.7	2,861.8	180.0	24.3	3.9	797.4	1,005.6	744.8	1,750.4	13.1	1,098.3	1,111.4
Mkt. year	885.9	6,505.0	2.6	7,393.5	500.0	70.4	19.5	3,744.4	4,334.3	1,947.8	6,282.1	13.1	1,098.3	1,111.4
1978/79														
Oct.-Dec.	1,111.4	7,267.9	0.1	8,379.4	132.8	17.1	---	1,456.4	1,606.3	454.0	2,060.3	77.3	6,241.8	6,319.1
Jan.-Mar.	6,319.1	---	0.4	6,319.5	116.9	16.9	3.9	1,255.1	1,392.8	426.3	1,819.1	98.8	4,401.6	4,500.4
Apr.-May	4,500.4	---	0.2	4,500.6	90.3	13.0	11.7	711.2	826.2	387.2	1,213.4	100.6	3,186.6	3,287.2
June-Sept.	3,287.2	---	0.5	3,287.7	191.2	22.3	3.9	900.8	1,118.2	865.6	1,983.8	99.7	1,204.2	1,303.9
Mkt. year	1,111.4	7,267.9	1.2	8,380.5	531.2	69.3	19.5	4,323.5	4,943.5	2,133.1	7,076.6	99.7	1,204.2	1,303.9
1979/80														
Oct.-Dec.	1,303.9	7,938.8	0.3	9,243.0	128.2	16.3	---	1,549.4	1,693.9	662.9	2,356.8	99.7	6,786.5	6,886.2
Jan.-Mar.	6,886.2	---	0.3	6,886.5	116.6	18.4	4.0	1,308.2	1,447.2	582.0	2,029.2	101.2	4,756.1	4,857.3
Apr.-May	4,857.3	---	0.1	4,857.4	93.2	13.9	12.0	682.3	801.4	385.6	1,187.0	180.5	3,489.9	3,670.4
June-Sept.	3,670.4	---	0.4	3,670.8	244.8	23.6	4.0	978.8	1,251.2	802.1	2,053.3	256.3	1,361.2	1,617.5
Mkt. year	1,303.9	7,938.8	1.1	9,243.8	582.8	72.2	20.0	4,518.7	5,193.7	2,432.6	7,626.3	256.3	1,361.2	1,617.5
1980/81 5/														
Oct.-Dec.	1,617.5	6,647.5	0.2	8,265.2	140.0	16.2	---	1,523.8	1,680.0	727.8	2,407.8	254.3	5,603.1	5,857.4
Jan.-Mar.	5,857.4	---	0.3	5,857.7	120.0	20.0	4.0	1,083.4	1,227.4	632.9	1,860.3	250.0	3,747.4	3,997.4
Apr.-May	3,997.4	---	0.1	3,997.5	110.5	12.3	12.2	692.6	827.6	395.7	1,223.3	251.6	2,522.6	2,774.2
June-Sept.	2,774.2	---	0.6	2,774.8	286.3	24.5	4.0	827.2	1,142.0	598.8	1,740.8	237.8	796.2	1,034.0
Mkt. year	1,617.5	6,647.5	1.2	8,266.2	656.8	73.0	20.2	4,127.0	4,877.0	2,355.2	7,232.2	237.8	796.2	1,034.0
1981/82														
Oct.-Dec.														
Jan.-Mar.														
Apr.-May														
June-Sept.														
Mkt. year														

1/ Data may not add to totals due to independent rounding. 2/ Malt beverage and distilled liquor grain products converted to a corn basis.  
 3/ Uncommitted inventory. 4/ Includes quantity under loan and farmer-owned reserve. 5/ Estimated.



**Table 8.--Sorghum: Marketing year supply and disappearance, specified periods, 1977-81 1/**

Table 9.--Barley: Marketing year supply and disappearance, specified periods, 1977-81 1/

Year and periods beginning June 1	Supply			Disappearance							Ending stocks			
	Begin- ning stocks	Produc- tion	Imports	Total	Domestic use			Exports	Total disap- pearance	Govt. owned 2/	Privately owned 3/	Total		
					Food	Alc. bever- ages	Seed and residual							
													Million bushels	
1977/78														
June-Sept.	126.4	427.8	5.1	559.3	2.3	46.7	1.4	64.6	115.0			149.9	409.4	409.4
Oct.-Dec.	409.4	---	1.8	411.2	1.4	28.2	2.3	32.7	64.6			79.0	332.2	332.2
Jan.-Mar.	332.2	---	1.8	334.0	1.4	32.8	4.0	54.4	92.6			94.9	239.1	239.1
Apr.-May	239.1	---	0.7	239.8	0.9	25.4	9.0	25.8	61.1			66.7	173.1	173.1
Mkt. year	126.4	427.8	9.4	563.6	6.0	133.1	16.7	177.5	333.3			390.5	173.1	173.1
1978/79														
June-Sept.	173.1	454.8	2.7	630.6	2.3	52.5	1.1	83.8	139.7	18.8	158.5	471.3	472.1	472.1
Oct.-Dec.	472.1	---	2.8	474.9	1.4	33.0	1.9	42.7	79.0	4.7	83.7	389.8	391.2	391.2
Jan.-Mar.	391.2	---	3.0	394.2	1.4	35.5	3.3	56.8	97.0	0.8	97.8	294.1	296.4	296.4
Apr.-May	296.4	---	2.0	298.4	0.9	26.5	7.3	34.3	69.0	1.4	70.4	225.5	228.0	228.0
Mkt. year	173.1	454.8	10.5	638.4	6.0	147.5	13.6	217.6	384.7	25.7	410.4	225.5	228.0	228.0
1979/80														
June-Sept.	228.0	382.8	3.7	614.5	2.5	51.9	1.1	87.3	142.8	9.9	152.7	458.9	461.8	461.8
Oct.-Dec.	461.8	---	2.8	464.6	1.7	33.9	2.0	39.0	76.6	22.4	99.0	362.5	365.6	365.6
Jan.-Mar.	365.6	---	3.2	368.8	1.7	37.3	3.4	53.0	95.4	11.1	106.5	259.0	262.3	262.3
Apr.-May	262.3	---	2.1	264.4	1.1	27.9	7.5	24.4	60.9	11.4	72.3	188.9	192.1	192.1
Mkt. year	228.0	382.8	11.8	622.6	7.0	151.0	14.0	203.7	375.7	54.8	430.5	188.9	192.1	192.1
1980/81 4/														
June-Sept.	192.1	358.5	3.5	554.1	2.5	56.6	1.2	78.1	138.4	24.9	163.3	387.3	390.8	390.8
Oct.-Dec.	390.8	---	2.3	393.1	1.7	33.2	2.2	32.7	69.8	21.4	91.2	298.4	301.9	301.9
Jan.-Mar.	301.9	---	2.7	304.6	1.7	36.0	3.7	38.4	79.8	22.7	102.5	198.7	202.1	202.1
Apr.-May	202.1	---	1.7	203.8	1.1	26.2	6.1	26.3	59.7	7.7	67.4	133.0	136.4	136.4
Mkt. year	192.1	358.5	10.2	560.8	7.0	152.0	13.2	175.5	347.7	76.7	424.4	133.0	136.4	136.4
1981/82 5/														
June-Sept.	136.5	476.0	2.4	614.9	2.5	51.3	1.2	81.7	136.7	32.6	169.3	442.3	445.6	445.6
Oct.-Dec.														
Jan.-Mar.														
Apr.-May														
Mkt. year														

1/ Data may not add to totals due to independent rounding. 2/ Uncommitted inventory. 3/ Includes quantity under loan and farmer-owned reserve. 4/ Estimated. 5/ Projected.

Table 10.—Oats: Marketing year supply and disappearance, specified periods, 1977-81 1/

Year and periods beginning June 1	Supply			Disappearance					Ending stocks		
	Beginning stocks	Production	Imports	Total	Domestic use			Exports	Total disappearance	Govt. owned 2/	Privately owned 3/
					Alc.	Feed	Seed and residual				
					ages		Million bushels				
1977/78											
June-Sept.	164.3	752.8	1.1	918.2	---	2.1	219.5	2.7	238.7	---	679.5
Oct.-Dec.	679.5	---	0.5	680.0	---	2.1	92.4	6.8	112.0	---	568.0
Jan.-Mar.	568.0	---	0.4	568.4	---	8.5	126.5	1.5	146.6	---	421.8
Apr.-May	421.8	---	0.2	422.0	---	29.8	71.0	1.3	108.9	---	313.1
Mkt. year	164.3	752.8	2.2	919.3	---	42.5	509.4	12.3	606.2	---	313.1
1978/79											
June-Sept.	313.1	581.7	0.3	895.1	---	1.8	224.8	7.9	249.2	1.5	644.4
Oct.-Dec.	645.9	---	0.1	646.0	---	1.8	84.2	3.4	99.7	2.5	543.8
Jan.-Mar.	546.3	---	0.2	546.5	---	7.2	146.3	0.7	164.9	2.7	378.9
Apr.-May	381.6	---	0.1	381.7	---	25.3	70.4	0.7	101.7	2.7	277.3
Mkt. year	313.1	581.7	0.7	895.5	---	36.1	525.7	12.7	615.5	2.7	277.3
1979/80											
June-Sept.	280.0	526.6	0.3	806.9	---	1.7	221.6	0.9	238.8	2.6	565.5
Oct.-Dec.	568.1	---	0.2	568.3	---	1.7	77.5	1.9	91.5	2.6	474.2
Jan.-Mar.	476.8	---	0.2	477.0	---	6.9	119.7	0.5	137.4	2.7	336.9
Apr.-May	339.6	---	0.2	339.8	---	24.3	72.9	0.8	103.4	2.7	233.7
Mkt. year	280.0	526.6	0.9	807.5	---	34.6	491.7	4.1	571.1	2.7	233.7
1980/81 5/											
June-Sept.	236.4	457.6	0.6	694.6	---	1.8	189.8	3.9	210.5	2.7	484.1
Oct.-Dec.	484.1	---	0.2	484.3	---	1.8	79.2	2.8	93.8	2.7	387.8
Jan.-Mar.	390.5	---	0.3	390.8	---	7.0	115.4	2.6	135.0	2.5	253.3
Apr.-May	255.8	---	0.2	256.0	---	22.4	46.9	4.0	79.3	2.5	174.2
Mkt. year	236.4	457.6	1.3	695.3	---	33.0	431.3	13.3	518.6	2.5	174.2
1981/82 6/											
June-Sept.	176.7	509.5	0.3	686.5	---	2.0	205.1	3.2	226.3	1.7	458.5
Oct.-Dec.											
Jan.-Mar.											
Apr.-May											
Mkt. year											

1/ Data may not add to totals due to independent rounding. 2/ Uncommitted inventory. 3/ Includes quantity under loan and farmer-owned reserve. 4/ Less than 50,000 bushels. 5/ Estimated. 6/ Projected.

Table 11.--Average prices received by farmers, United States, by months, 1977-81

Item and year beginning October 1	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average weighted by sales 1/
<u>Dollars per bushel</u>													
<b>Corn</b>													
1977	1.67	1.88	1.97	2.00	2.03	2.15	2.24	2.29	2.28	2.16	2.01	1.98	2.02
1978	1.97	2.02	2.09	2.11	2.18	2.22	2.27	2.35	2.49	2.64	2.54	2.51	2.25
1979	2.41	2.27	2.38	2.45	2.39	2.40	2.36	2.42	2.49	2.73	2.92	3.01	2.52
1980	2.99	3.10	3.19	3.19	3.22	3.25	3.24	3.24	3.17	3.14	2.87	2.55	3.10
1981	*2.42												
<b>Sorghum</b>													
<u>Dollars per 100 pounds</u>													
1977	2.80	3.03	3.05	3.15	3.20	3.39	3.62	3.66	3.64	3.50	3.37	3.22	3.25
1978	3.35	3.45	3.58	3.54	3.55	3.54	3.58	3.66	4.30	4.46	4.27	4.24	3.59
1979	3.90	3.99	3.90	4.05	3.98	4.05	3.96	4.04	4.49	4.95	5.12	5.12	4.18
1980	5.36	5.44	5.49	5.48	5.33	5.17	5.25	5.12	4.95	4.84	4.55	4.07	5.27
1981	*3.99												
Item and year beginning June 1	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Average weighted by sales 1/
<u>Dollars per bushel</u>													
<b>Oats</b>													
1977	1.29	1.02	0.93	0.94	1.04	1.10	1.13	1.18	1.22	1.17	1.19	1.24	1.10
1978	1.16	1.08	1.06	1.06	1.08	1.15	1.19	1.22	1.25	1.27	1.29	1.29	1.20
1979	1.35	1.33	1.24	1.29	1.31	1.41	1.31	1.39	1.37	1.34	1.38	1.43	1.36
1980	1.48	1.50	1.53	1.63	1.65	1.84	1.92	1.98	2.01	2.08	2.05	2.05	1.82
1981	1.99	1.82	1.73	1.74	*1.79								
<b>Barley</b>													
1977	1.93	1.53	1.53	1.69	1.63	1.82	1.79	1.90	1.98	1.90	1.93	2.15	1.78
1978	2.04	1.83	1.86	1.85	1.90	1.93	1.90	1.95	1.87	1.89	1.96	2.07	1.92
1979	2.30	2.22	2.23	2.33	2.32	2.40	2.32	2.27	2.23	2.18	2.15	2.21	2.29
1980	2.36	2.52	2.59	2.65	2.81	2.90	2.97	3.09	3.05	3.04	3.04	3.00	2.91
1981	2.94	2.41	2.37	2.44	*2.38								
Item and year beginning May 1	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Average weighted by sales
<u>Dollars per ton</u>													
<b>Hay</b>													
1977	68.10	61.30	56.80	52.50	50.00	48.20	48.40	49.50	50.50	51.80	51.40	51.40	53.70
1978	55.30	51.20	49.20	49.00	47.80	47.10	46.40	47.30	48.90	50.70	50.20	49.90	49.80
1979	65.60	58.00	56.00	57.50	58.60	60.80	58.50	59.70	59.10	60.00	57.40	60.10	59.50
1980	69.10	64.00	66.50	68.40	70.40	75.80	74.60	75.20	73.80	74.00	71.60	72.70	70.90
1981	77.60	69.80	65.70	63.90	62.90	64.00							

1/ Includes an allowance for unredeemed loans and purchase agreement deliveries valued at the average loan rate, by States; excludes government payments.

\* Preliminary (mid-month price).

Source: Agricultural Prices, Crop Reporting Board, USDA.

Table 12.--Cash prices at principal markets, 1977-81

Item and year beginning October 1	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Simple average
<u>Dollars per bushel</u>													
CORN No. 2 Yellow, Chicago													
1977	1.84	2.14	2.19	2.15	2.21	2.36	2.51	2.57	2.51	2.28	2.17	2.13	2.26
1978	2.22	2.28	2.27	2.29	2.35	2.42	2.53	2.66	2.83	3.00	2.82	2.78	2.54
1979	2.73	2.59	2.65	2.54	2.65	2.60	2.61	2.70	2.70	3.06	3.36	3.44	2.81
1980	3.43	3.43	3.54	3.56	3.49	3.48	3.53	3.47	3.41	3.41	3.09	*2.72	3.36
1981													
CORN No. 2 Yellow, Omaha													
1977	1.79	2.02	2.04	2.02	2.03	2.14	2.25	2.34	2.33	2.13	1.98	1.95	2.08
1978	2.05	2.04	2.09	2.12	2.13	2.17	2.26	2.40	2.59	2.68	2.45	2.37	2.28
1979	2.37	2.32	2.36	2.26	2.33	2.23	2.32	2.43	2.50	2.81	2.98	3.01	2.49
1980	3.16	3.34	3.30	3.29	3.18	3.17	3.24	3.24	3.19	3.15	2.79	*2.51	3.13
1981													
SORGHUM No. 2 Yellow, Kansas City													
<u>Dollars per hundred weight</u>													
1977	3.05	3.40	3.36	3.37	3.49	3.78	3.92	3.92	3.82	3.54	3.41	3.43	3.54
1978	3.61	3.67	3.64	3.71	3.73	3.77	3.81	3.92	4.41	4.89	4.44	4.34	4.00
1979	4.42	4.41	4.57	4.21	4.35	4.20	4.09	4.31	4.49	5.36	5.71	5.61	4.64
1980	5.65	5.82	5.79	5.79	5.52	5.46	5.49	5.38	5.23	5.29	4.58	*4.16	5.36
1981													
Item and year beginning June 1	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Simple average
<u>Dollars per bushel</u>													
OATS No. 2 Heavy White, Minneapolis													
1977	1.38	1.15	1.02	1.11	1.17	1.34	1.32	1.32	1.32	1.33	1.40	1.43	1.27
1978	1.36	1.24	1.28	1.36	1.39	1.47	1.40	1.47	1.54	1.60	1.48	1.55	1.43
1979	1.68	1.60	1.47	1.55	1.65	1.67	1.59	1.52	1.50	1.48	1.52	1.62	1.57
1980	1.67	1.80	1.70	1.86	1.96	2.15	2.16	2.20	2.25	2.23	2.21	2.23	2.04
1981	2.18	2.02	1.95	*2.02									
BARLEY No. 2 or Better Feed, Minneapolis													
1977	1.76	1.63	1.50	1.58	1.66	1.65	1.65	1.65	1.65	1.66	1.51	1.90	1.68
1978	1.84	1.71	1.68	1.77	1.81	1.88	1.79	1.71	1.69	1.86	1.89	1.96	1.80
1979	2.16	2.39	2.15	2.22	2.34	2.11	2.15	2.09	2.04	2.06	2.12	2.09	2.16
1980	2.15	2.48	2.39	2.43	2.77	3.03	2.75	2.81	2.90	2.63	2.51	2.39	2.60
1981	2.05	2.26	2.35	*2.21									
BARLEY No. 3 or Better Malting, 65% or Better Plump, Minneapolis													
1977	2.38	2.02	1.92	2.15	1/2.25	2.36	2.32	2.26	2.33	2.32	2.44	2.51	2.27
1978	2.39	2.13	2.19	2.27	2.26	2.47	2.40	2.30	2.33	2.46	2.59	2.73	2.38
1979	2.80	2.82	2.67	3.10	3.18	3.06	2.93	2.87	2.81	2.69	2.73	2.82	2.87
1980	2.99	3.36	3.27	3.63	3.80	3.88	3.77	3.75	3.83	3.71	3.84	3.80	3.64
1981	3.34	2.95	3.15	*3.05									

1/ Prior to October 1977, 70% or better plump. \* Preliminary.

Source: Grain Market News, AMS, USDA.

Table 13.—Livestock, poultry and milk-feed price ratios, by months, 1977-81

Item and year beginning October 1	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
HOG/CORN, U.S. Basis <u>1/</u>													
1977	23.9	20.1	21.3	22.0	23.3	21.6	20.1	20.9	20.9	21.0	23.6	24.2	21.9
1978	25.8	23.4	23.0	24.0	24.1	21.8	19.4	18.4	15.9	14.4	14.3	14.8	19.9
1979	14.0	15.2	15.8	14.8	15.4	13.9	11.9	11.8	13.3	15.1	15.8	15.3	14.4
1980 <u>2/</u>	15.8	14.9	13.8	12.8	12.8	11.9	12.0	12.6	15.0	15.7	17.1	19.1	14.5
1981 <u>2/</u>	18.4												
BEEF-STEER/CORN, Omaha <u>3/</u>													
1977	23.6	20.7	21.1	21.6	22.2	22.7	23.3	24.5	23.8	25.6	26.5	27.8	23.6
1978	26.8	26.4	26.6	28.5	30.5	32.7	33.2	30.8	26.5	25.0	25.6	28.6	28.4
1979	27.8	28.9	28.8	29.4	29.0	30.0	27.6	26.6	26.6	25.3	24.3	23.1	27.3
1980 <u>2/</u>	21.3	19.5	19.5	19.1	19.3	19.4	20.0	20.6	21.4	21.5	23.8	26.0	21.0
1981 <u>2/</u>	N.A.												
MILK/FEED, U.S. Basis <u>4/</u>													
1977	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.6	1.5
1978	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.5	1.5	1.5
1979	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.5
1980 <u>2/</u>	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.7
1981 <u>2/</u>	1.5												
EGG/FEED, U.S. Basis <u>5/</u>													
1977	7.1	7.3	7.4	6.7	7.5	7.4	6.7	6.3	5.6	6.4	7.0	7.3	6.9
1978	7.0	7.5	8.0	7.8	7.7	8.0	7.4	6.9	6.7	6.1	6.1	6.4	7.1
1979	6.1	6.8	7.3	6.6	5.9	6.3	6.0	5.3	5.5	5.7	6.0	6.2	6.1
1980 <u>2/</u>	5.7	6.0	6.6	5.9	5.7	5.7	6.0	5.2	5.2	5.5	5.7	6.4	5.8
1981 <u>2/</u>	6.5												
BROILER/FEED, U.S. Basis <u>6/</u>													
1977	3.0	2.7	2.6	2.8	3.0	3.0	3.3	3.3	3.5	3.7	3.1	3.1	3.1
1978	2.9	2.8	2.9	3.1	3.3	3.1	3.0	3.2	2.9	2.5	2.3	2.4	2.9
1979	2.2	2.6	2.6	2.8	2.6	2.5	2.3	2.5	2.6	3.3	3.0	2.9	2.7
1980 <u>2/</u>	2.8	2.5	2.5	2.5	2.6	2.6	2.3	2.4	2.5	2.6	2.6	2.4	2.5
1981 <u>2/</u>	2.4												
TURKEY/FEED, U.S. Basis <u>7/</u>													
1977	4.3	4.5	4.5	4.3	4.2	4.3	4.2	4.3	4.4	4.5	4.8	4.9	4.4
1978	5.0	5.1	5.4	5.0	4.6	4.3	4.3	4.2	3.9	3.5	3.7	3.7	4.4
1979	3.9	4.5	4.3	3.8	3.6	3.5	3.4	3.1	3.1	3.5	3.5	3.7	3.7
1980 <u>2/</u>	3.9	3.8	3.5	3.1	3.1	3.2	3.0	3.1	3.2	3.3	3.3	3.1	3.3
1981 <u>2/</u>	2.8												

1/ Number bushels of corn equal in value to 100 pounds of hog liveweight.2/ Preliminary.3/ Based on price of beef-steers 900-1,100 pounds, choice instead of average grade all steers previously published.4/ Pounds 16% dairy feed equal in value to one pound whole milk.5/ Number of pounds of laying feed equal in value to one dozen eggs.6/ Number of pounds of broiler grower feed equal in value to one pound broiler liveweight.7/ Pounds of turkey grower feed equal in value to one pound turkey liveweight.

N.A. = Not available.

Source: Agricultural Prices, Crop Reporting Board, USDA.



Table 14.--Price trends, selected feeds and corn products

Item	Unit	Oct.-Sept. 1980/81 1/	1981					
			April	May	June	July	August	September
<b>WHOLESALE, MOSTLY BULK 2/</b>								
Soybean meal, 44%, solvent, Decatur	Dol./short ton	218	222	221	201	204	202	190
Soybean meal, high protein, Decatur	"	235	239	238	222	223	220	207
Cottonseed meal, 41%, expeller, Memphis	"	198	207	202	194	182	183	167
Linseed meal, 34%, solvent, Minneapolis	"	161	158	155	154	145	150	150
Peanut meal, 50%, S.E. mills	"	236	210	---	---	198	---	---
Meat meal, 50%, Illinois Product Points	"	250	240	244	237	243	239	235
Fishmeal, 65%, domestic, East Coast	"	427	419	414	404	391	365	378
Gluten feed, 60%, Chicago	"	120	121	122	111	102	107	109
Gluten meal, 60%, Chicago	"	269	235	256	261	238	249	260
Brewers' dried grains, 24%, Chicago	"	116	111	114	94	85	96	100
Distillers' dried grains, 28%, Cincinnati	"	162	145	155	164	*164	156	150
Feather meal, Jackson, Mississippi	"	268	258	269	248	234	239	237
Wheat bran, Kansas City	"	103	104	92	92	82	75	90
Wheat middlings, Kansas City	"	103	104	92	92	82	75	90
Rice bran, Arkansas	"	80	69	74	78	70	66	61
Hominy feed, Illinois Points	"	105	111	108	96	100	94	88
Alfalfa meal, 17%, dehy., Kansas City	"	122	126	118	112	113	109	106
Cane molasses, New Orleans	"	99	103	96	88	83	72	68
Molasses beet pulp, Los Angeles	"	132	138	131	123	123	119	116
Animal fat, Chicago	"	15.9	16.8	16.8	16.4	15.7	15.5	15.1
Urea, 42%, N., Fort Worth	"	221	228	225	225	225	225	225
Corn, No. 2, white, Kansas City	Dol./bu.	4.96	5.35	5.23	4.04	3.94	3.20	2.85
<b>PRICES PAID, U.S. BASIS 3/</b>								
Soybean meal, 44%	Dol./cwt.	15.38	15.20	15.40	15.20	15.00	14.90	14.40
Cottonseed meal, 41%	"	15.23	15.30	15.20	15.50	15.40	15.20	14.90
Wheat bran	"	10.35	10.50	10.50	10.40	10.40	10.20	10.10
Wheat middlings	"	9.96	10.00	10.20	9.98	9.86	9.71	9.56
Broiler grower feed	Dol./short ton	233	234	235	234	233	225	222
Laying feed	"	214	215	217	219	214	207	203
Turkey grower feed	"	254	254	255	256	256	250	248
Chick starter	"	279	242	247	237	236	232	229
Dairy feed, 16%	"	196	197	200	197	192	189	185
Beef cattle concentrate, 32-36%	Dol./cwt.	12.33	12.20	12.30	12.10	12.20	12.10	12.00
Hog concentrate, 38-42%, protein	"	16.43	16.20	16.60	16.10	16.00	16.00	15.50
Stock salt	"	5.63	5.64	5.67	5.79	5.80	5.82	5.89
<b>CORN PRODUCTS, WHOLESALE 4/</b>								
Corn meal, New York								
White	Dol./cwt.	19.67	20.57	20.09	19.46	18.96	19.11	17.87
Yellow	"	13.27	13.56	13.33	13.46	13.72	13.03	11.66
Grits (brewers') Chicago	"	10.59	10.83	10.58	10.70	10.92	10.24	9.20
Syrup, Chicago West	Cts./lb.	16.64	15.69	15.69	16.33	16.84	17.15	16.05
Sugar (dextrose), Chicago, West	"	28.78	27.65	27.65	27.65	27.65	26.33	25.00
High-fructose (dry weight tank car) Chicago West	"	23.76	22.54	21.22	22.18	22.18	21.66	19.72
Corn starch (f.o.b. Midwest)	Dol./cwt.	11.78	12.46	12.52	12.25	12.22	12.37	11.80

1/ Preliminary. 2/ Feed Market News, AMS, USDA, except urea which is from Feedstuffs. Miller Publishing Co., Minneapolis, Minnesota. 3/ Agricultural Prices, CRB, USDA. 4/ Milling and Baking News, Kansas City, Missouri, except starch which is from industry sources. \*Beginning July 1981 reported for Lawrenceburg.

Table 15.--Feed grain support loan status, 1977-81 crops,  
as of October 28, 1981

Item	Placed under loan	Redeemed by farmers	Delivered to CCC	In reserve program 1/	Loans outstanding	Total in reserve and loans outstanding 1/
	Million bushels					
<u>CORN</u>						
1977	1,159	689	94	53	0	53
1978	642	582	2	35	1	36
1979	557	524	<u>2/</u>	33	<u>2/</u>	33
1980	838	693	3	71	71	142
1981	50	<u>2/</u>	0	12	38	50
<u>SORGHUM</u>						
1977	217	133	41	1	0	1
1978	92	87	5	0	0	0
1979	64	64	0	0	0	0
1980	32	19	<u>2/</u>	1	11	12
1981	34	<u>2/</u>	0	1	33	34
<u>OATS</u>						
1977	83	56	3	2	0	2
1978	25	25	<u>2/</u>	<u>2/</u>	0	<u>2/</u>
1979	12	12	0	0	0	0
1980	6	6	0	0	<u>2/</u>	<u>2/</u>
1981	7	<u>2/</u>	0	0	7	7
<u>BARLEY</u>						
1977	87	65	3	1	0	1
1978	68	63	<u>2/</u>	4	<u>2/</u>	4
1979	30	28	0	3	0	3
1980	31	25	0	4	2	6
1981	32	1	0	<u>2/</u>	31	31

1/ Reserve corn for 1980 and earlier crops have been called. Reserves for 1981 feed grain crops and 1980 crops remaining under loan were open on October 6.

2/ Less than 500,000 bushels.

SOURCE: Agricultural Stabilization and Conservation Service.

Table 16.--Feed concentrate balance, number of animal units,  
and feed per unit, annual, 1975-81

Item	Year beginning October						
	1975	1976	1977	1978	1979	1980 <u>1/</u>	1981 <u>2/</u>
	Million metric tons						
Feed Grains							
October 1 stocks	26.5	27.1	43.6	52.7	55.5	60.3	45.4
Production							
Corn	148.0	159.0	161.8	180.0	201.7	168.9	205.3
Sorghum	19.1	18.4	20.1	18.7	20.6	14.9	22.2
Oats	9.3	7.9	10.9	8.7	7.6	6.6	7.4
Barley	8.1	8.1	9.1	9.8	8.3	7.8	10.4
Total	184.5	193.4	201.9	217.2	238.2	198.2	245.3
Imports	.5	.3	.3	.3	.3	.3	.3
Wheat fed	1.5	6.6	5.0	4.9	2.1	1.3	5.5
Rye fed	.2	.2	.3	.2	.2	.2	.1
Byproduct feeds fed	33.3	31.1	33.8	34.5	38.1	37.9	37.4
Total concentrate supply	246.5	258.7	284.9	309.8	334.4	298.2	334.0
Concentrates fed							
Corn	90.4	91.1	93.8	105.0	115.4	104.4	108.0
Sorghum	13.0	10.9	12.0	14.2	12.4	8.0	11.4
Oats	7.9	7.3	7.4	7.7	7.1	8.1	6.3
Barley	4.1	3.1	4.0	4.5	4.5	3.8	4.4
Wheat and rye	1.7	6.8	5.3	5.1	2.3	1.5	5.6
Oilseed meals	15.7	14.4	16.8	18.4	19.5	16.3	18.6
Animal protein feeds	2.6	2.7	2.8	2.1	2.3	2.5	2.0
Grain protein feeds	2.0	1.5	1.5	1.5	1.5	2.6	2.3
Other byproduct feeds	13.0	12.4	12.7	13.0	16.4	16.5	14.4
Total	150.4	150.2	156.3	171.5	181.4	163.7	173.0
Grain-consuming animal units (GCAU's)							
Dairy cattle	12.3	12.3	12.2	12.0	12.1	12.2	12.3
Cattle on feed	19.7	19.1	20.4	20.1	18.8	17.8	18.1
Other cattle	5.6	5.3	4.8	4.5	4.6	4.8	4.9
Hogs	16.4	19.4	21.1	21.5	23.8	22.2	20.7
Poultry	18.0	18.3	18.8	20.1	21.1	21.6	22.0
Other livestock	1.6	1.5	1.7	1.8	1.9	2.0	2.0
Total	74.6	75.9	79.0	80.0	82.3	80.6	80.0
Concentrates fed/GCAU							
Four feed grains	1.55	1.48	1.48	1.64	1.69	1.54	1.63
All concentrates	2.02	1.98	1.98	2.15	2.13	2.03	2.16

1/ Preliminary.

2/ Forecast (10/1/81).

Table 17.--Consumption of feed by kind of livestock, 1974-81

Year beginning October 1	Concentrates						Roughages		
	Feed grains	All grains	High protein	Other feed	Total concentrates	Corn	Soybean meal	Hay	Other harvested roughage
	1/ :	2/ :	3/ :	4/ :	5/ :	6/ :	7/ :	8/ :	9/ :
Million metric tons									
DAIRY ANIMALS									
1974	19.3	19.7	2.1	4.7	26.5	13.3	1.4	31.9	58.5
1975	19.3	19.6	2.2	4.8	26.7	13.5	1.6	27.7	63.4
1976	19.7	20.5	2.0	4.6	27.1	15.4	1.4	29.6	66.1
1977	20.7	21.4	2.1	4.3	27.8	16.1	1.3	31.9	70.4
1978	22.9	23.1	2.1	4.3	29.5	17.9	1.4	34.4	69.8
1979	21.7	22.0	2.5	3.6	29.1	18.7	1.5	34.0	70.0
1980 7/	22.1	22.3	2.3	4.3	28.9	17.5	1.5	39.6	68.5
1981 7/	23.8	24.4	2.5	3.9	30.9	19.4	1.8	N.A.	N.A.
CATTLE ON FEED									
1974	21.0	21.9	1.0	2.4	25.2	14.2	.9	13.9	22.0
1975	28.3	29.4	1.3	3.0	33.6	19.2	1.2	20.6	39.0
1976	25.5	27.8	1.0	2.6	31.4	18.7	.8	13.0	22.8
1977	29.3	31.3	1.0	2.5	34.8	21.4	1.0	7.6	15.1
1978	31.8	32.2	1.2	2.8	36.2	22.9	1.0	8.1	15.0
1979	28.8	29.3	1.1	2.1	32.5	21.5	.9	7.5	16.0
1980 7/	22.3	22.7	.9	2.7	25.9	17.8	.7	29.9	11.1
1981 7/	24.3	25.8	.9	1.8	28.5	18.1	.8	N.A.	N.A.
OTHER BEEF CATTLE									
1974	7.4	7.5	.8	4.1	12.4	5.5	.5	64.8	58.2
1975	7.6	7.7	.8	4.0	12.5	5.6	.7	54.7	60.1
1976	7.2	7.5	.6	3.7	11.8	5.8	.5	59.9	65.1
1977	7.9	8.2	.8	3.0	12.0	6.3	.7	61.8	65.5
1978	8.4	8.5	.7	2.5	11.7	6.7	.6	66.3	65.0
1979	7.7	7.8	.7	2.7	11.2	6.3	.6	73.1	64.2
1980 7/	7.5	7.5	.7	2.6	10.7	6.2	.6	61.7	61.9
1981 7/	8.3	8.5	.8	2.3	11.6	6.8	.7	N.A.	N.A.
HENS AND PULLETS, CHICKENS RAISED									
1974	10.7	11.5	3.2	2.4	17.2	7.3	2.6	---	---
1975	11.5	12.2	3.6	2.5	18.4	7.9	3.0	---	---
1976	11.6	13.2	3.2	2.4	18.9	8.8	2.6	---	---
1977	11.2	12.4	3.2	2.2	17.8	9.3	2.7	---	---
1978	13.7	14.2	3.6	2.4	20.1	10.3	2.5	---	---
1979	14.5	15.2	3.8	1.9	20.9	11.1	3.1	---	---
1980 7/	13.9	14.5	3.7	2.3	20.5	10.8	2.8	---	---
1981 7/	14.4	15.9	3.8	2.1	21.8	11.2	3.1	---	---
BROILERS									
1974	4.8	5.0	2.8	.7	8.5	4.6	2.1	---	---
1975	5.5	5.6	3.2	.8	9.7	5.2	2.7	---	---
1976	7.1	7.5	3.3	.9	11.6	6.8	2.7	---	---
1977	7.1	7.4	3.4	.8	12.0	6.8	2.4	---	---
1978	9.3	9.5	4.1	.7	14.3	8.9	3.2	---	---
1979	9.9	10.1	4.3	.8	15.2	9.5	3.5	---	---
1980 7/	10.1	10.3	4.5	.9	15.7	9.8	3.4	---	---
1981 7/	11.2	11.6	4.9	.8	17.4	10.7	4.0	---	---

Continued--

Table 17.--Consumption of feed by kind of livestock, 1974-81--Continued

Year beginning October 1	Concentrates							Roughages	
	Feed	All	High	Other	Total		Soybean		Other
	grains	grains	protein	feed	concen-	Corn	meal	Hay	harvested
	1/	2/	3/	4/	trates		5/		roughage
	Million metric tons								
	TURKEYS								
1974	1.6	1.7	1.4	0.3	3.4	1.3	0.8	---	---
1975	1.7	1.8	1.5	.3	3.6	1.5	1.1	---	---
1976	1.8	2.0	1.3	.3	3.6	1.6	.9	---	---
1977	1.8	2.0	1.4	.2	3.6	1.8	1.1	---	---
1978	2.5	2.6	1.8	.3	4.8	2.2	1.2	---	---
1979	2.7	2.8	1.9	.3	5.0	2.4	1.4	---	---
1980 7/	2.7	2.8	1.9	.4	5.1	2.4	1.3	---	---
1981 7/	2.9	3.2	2.0	.3	5.5	2.6	1.4	---	---
	HOGS								
1974	24.4	24.7	4.4	2.2	31.2	22.1	3.9	---	---
1975	29.9	30.2	5.5	2.5	38.2	27.2	5.1	---	---
1976	34.9	35.8	5.2	2.5	43.5	32.6	4.7	---	---
1977	34.5	36.9	5.7	2.4	45.5	34.5	5.3	---	---
1978	43.1	43.4	6.0	2.4	51.8	40.2	4.7	---	---
1979	46.8	47.2	6.7	2.2	56.1	43.9	5.5	---	---
1980 7/	40.6	40.8	5.6	2.3	48.7	38.4	4.8	---	---
1981 7/	39.2	40.0	5.4	1.7	47.1	37.0	5.0	---	---
	OTHER LIVESTOCK								
1974	5.1	5.2	1.8	1.3	8.3	1.1	.4	11.0	.2
1975	4.8	4.9	1.9	1.3	8.0	1.1	.5	10.6	.3
1976	4.9	5.1	2.1	1.5	8.8	1.5	.5	11.8	.3
1977	5.0	5.2	1.9	1.2	8.3	1.4	1.1	13.6	.3
1978	5.3	5.3	1.3	1.2	7.7	1.8	1.1	14.6	.3
1979	5.8	6.0	2.7	1.4	10.1	2.0	1.8	15.0	.3
1980 7/	5.2	5.2	1.8	1.1	8.1	1.7	1.1	10.6	5.2
1981 7/	5.9	6.2	2.6	1.4	10.2	2.2	1.8	N.A.	N.A.
	ALL LIVESTOCK AND POULTRY								
1974	94.4	97.3	17.4	18.1	132.7	69.3	12.7	121.6	139.0
1975	108.6	111.6	20.1	19.1	150.7	81.2	15.8	113.6	162.7
1976	112.6	119.4	18.8	18.4	156.6	91.1	14.2	114.3	154.2
1977	119.7	125.3	19.7	16.6	161.6	96.5	13.4	114.9	151.2
1978	137.2	138.8	19.5	17.6	176.3	111.0	16.5	123.7	150.0
1979	139.4	141.7	23.3	15.2	180.2	115.4	16.9	129.6	150.5
1980 7/	124.4	125.8	21.3	16.5	163.6	104.4	16.3	140.8	146.9
1981 7/	130.1	135.6	22.9	14.4	172.9	108.0	18.6	N.A.	N.A.

1/ Corn, sorghum, oats and barley.

2/ Feed grains, wheat and rye.

3/ Oilseed meals, animal and grain proteins.

4/ Dry milling byproducts, fats and oils, alfalfa meal, molasses, screenings, salt, minerals and urea.

5/ 44 percent crude protein content. Soybean meal consumption reflects adjustments for crude protein levels and net supply used for feed.

6/ Silage, beet pulp and straw.

7/ Preliminary.

N.A.=Not available.

Totals may not add due to independent rounding.

Table 18.--Feed grains: Deficit or surplus, by States, 1979, 1980, and 1981 1/

State	1979				1980				1981			
	Feed grains produced	Feed grains fed 2/	Production compared with amount fed		Feed grains produced	Feed grains fed 2/	Production compared with amount fed		Feed grains produced	Feed grains fed 2/	Production compared with amount fed	
			Under	Over			Under	Over			Under	Over
One thousand tons												
Northeast:												
Maine	39	1,156	1,117	---	39	1,071	1,032	---	45	1,113	1,068	---
New Hampshire	---	149	149	---	---	133	133	---	---	143	143	---
Vermont	---	412	412	---	---	381	381	---	---	396	396	---
Massachusetts	---	246	246	---	---	227	227	---	---	238	238	---
Rhode Island	---	27	27	---	---	26	26	---	---	27	27	---
Connecticut	---	419	219	---	---	388	388	---	---	404	404	---
New York	1,848	2,526	678	---	2,200	2,341	141	---	2,361	2,432	71	---
New Jersey	235	201	---	34	239	186	---	53	322	193	---	129
Pennsylvania	3,672	4,034	362	---	3,900	3,737	---	163	3,882	3,884	2	---
Delaware	504	911	407	---	386	844	458	---	413	877	464	---
Maryland	1,771	1,668	---	103	1,395	1,545	150	---	1,835	1,605	---	230
Lake States:												
Michigan	6,933	2,534	---	4,399	7,264	2,348	---	4,916	7,797	2,439	---	5,358
Wisconsin	9,516	6,128	---	3,388	10,732	5,678	---	5,054	11,510	5,900	---	5,610
Minnesota	19,300	8,221	---	11,079	19,237	7,617	---	11,620	22,937	7,914	---	15,023
Corn Belt:												
Ohio	12,081	3,596	---	8,485	12,661	3,332	---	9,329	10,061	3,463	---	6,598
Indiana	18,761	5,723	---	13,038	16,987	5,302	---	11,685	16,896	5,509	---	11,387
Illinois	38,436	7,324	---	31,112	30,174	6,785	---	23,389	40,560	7,050	---	33,510
Iowa	46,562	16,525	---	30,037	41,993	15,310	---	26,683	48,940	15,907	---	33,033
Missouri	8,087	5,073	---	3,014	4,314	4,700	386	---	8,246	4,884	---	3,362
Northern Plains:												
North Dakota	3,030	824	---	2,206	1,839	764	---	1,075	4,400	793	---	3,607
South Dakota	8,342	3,500	---	4,842	5,102	3,243	---	1,859	5,963	3,370	---	2,593
Nebraska	26,617	8,713	---	17,904	20,574	8,073	---	12,501	26,572	8,388	---	18,184
Kansas	12,608	5,762	---	6,846	7,778	5,338	---	2,440	11,523	5,545	---	5,978
Appalachian:												
Virginia	1,597	1,954	357	---	1,051	1,811	760	---	1,563	1,880	317	---
West Virginia	147	366	219	---	164	338	174	---	179	352	173	---
North Carolina	3,879	4,938	1,059	---	3,099	4,576	1,477	---	3,985	4,754	769	---
Kentucky	3,813	1,919	---	1,894	2,979	1,779	---	1,200	4,245	1,848	---	2,397
Tennessee	1,598	1,818	220	---	860	1,685	825	---	1,681	1,750	69	---
Southeast:												
South Carolina	1,232	1,285	53	---	756	1,191	435	---	1,040	1,238	198	---
Georgia	2,926	5,450	2,524	---	1,639	5,049	3,410	---	2,209	5,246	3,037	---
Florida	534	2,406	1,872	---	432	2,230	1,798	---	460	2,316	1,856	---
Alabama	902	3,939	3,037	---	457	3,649	3,192	---	869	3,791	2,922	---
Delta States:												
Mississippi	201	2,262	2,061	---	106	2,096	1,990	---	271	2,177	1,906	---
Arkansas	398	4,748	4,350	---	227	4,400	4,173	---	614	4,571	3,957	---
Louisiana	81	1,061	980	---	52	982	930	---	123	1,021	898	---
Southern Plains:												
Oklahoma	1,014	2,339	1,325	---	706	2,166	1,460	---	864	2,252	1,388	---
Texas	10,822	9,593	---	1,229	8,591	8,888	297	---	10,944	9,234	---	1,710
Mountain:												
Montana	1,077	707	---	370	1,126	654	---	472	1,480	680	---	800
Idaho	1,321	1,015	---	306	1,595	940	---	655	1,799	977	---	822
Wyoming	306	286	---	20	344	265	---	79	319	275	---	44
Colorado	3,396	3,469	73	---	3,263	3,214	---	49	3,952	3,339	---	613
New Mexico	640	1,145	505	---	538	1,061	523	---	617	1,102	485	---
Arizona	365	1,631	1,266	---	262	1,510	1,248	---	244	1,570	1,326	---
Utah	270	671	401	---	316	622	306	---	317	646	329	---
Nevada	32	184	152	---	47	171	124	---	47	177	130	---
Pacific:												
Washington	779	1,227	448	---	1,102	1,136	34	---	1,411	1,180	---	231
Oregon	290	736	446	---	341	682	341	---	402	709	307	---
California	2,401	7,699	5,298	---	2,460	7,133	4,673	---	2,215	7,411	5,196	---
48 States	258,363	148,520			219,327	137,597			266,113	142,970		

1/ Additional disappearance not included in this computation: Feed grains for seed, human food, and industry as well as those needed for export. Thus, this table probably overstates surpluses and understates deficits within each of the States. 1981 data forecast.

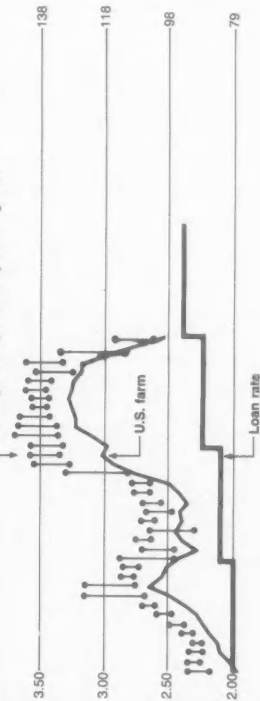
2/ Computed for each State by multiplying the grain-consuming animal units in that State by 1.8227 tons in 1979, 1.7086 tons in 1980, and 1.7857 tons in 1981. These feeding rates were the average rates of feed grains disappearance per grain-consuming animal unit at the national level.



# **Corn Prices**

\$ per bushel  
4.00 3.50 3.00 2.50 2.00 1.50 1.00

Chicago no. 2 yellow daily cash high-low



1978/79 1980/81 1982/83  
O J A J O J A J O J A J O J A J  
Year beginning October

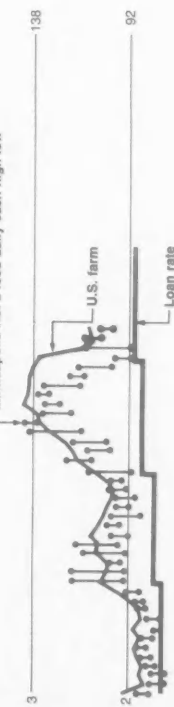
USDA

Neg. ERS 382-81(10)

# **Barley Prices**

\$ per bushel  
4 3 2 1

Minneapolis No. 2 feed daily cash high-low



1978/79 1980/81 1982/83  
O J A J O J A J O J A J O J A J  
Year beginning June

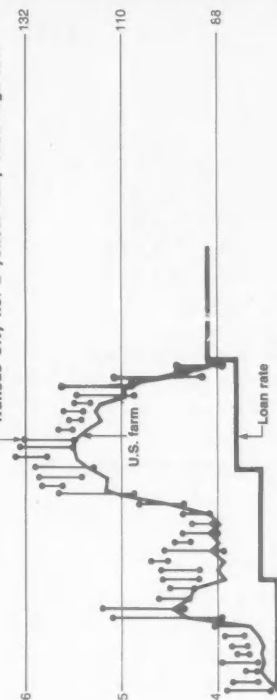
USDA

Neg. ERS 955-81 (10)

# **Sorghum Prices**

\$ per cwt.  
7 6 5 4

Kansas City no. 2 yellow daily cash high-low



1978/79 1980/81 1982/83  
O J A J O J A J O J A J O J A J  
Year beginning October

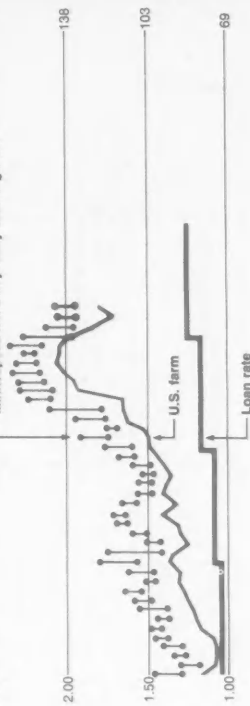
USDA

Neg. ERS 386-81(10)

# **Oat Prices**

\$ per bushel  
2.50 2.00 1.50 1.00 0.50

Minneapolis no. 2 hvy. daily cash high-low



1978/79 1980/81 1982/83  
O J A J O J A J O J A J O J A J  
Year beginning June

USDA

Neg. ERS 956-81 (10)

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